Journal
OF THE AMERICAN VETERINARY MEDICAL ASSOCIATION

Convention Preview

94th Annual Meeting, Cleveland, August 19-22, 1957

The Cleveland Meeting—A Message from President Kester 1
Preliminary Program 20

Clinical Data

Demodex Folliculorum Studies. VI. The Internal Phase of Canine Demodectic Mange—*Fleetwood R. Koutz* 45
Avian Tuberculosis in Mink—A Case Report—*R. E. Hall and F. Winkel* ... 49

Surgery and Obstetrics

General Anesthesia in Birds—*V. L. Sanger and H. R. Smith* 52
Intramedullary Fixation of the Chinchilla Tibia—*D. A. Price and W. F. Juliff* 56
A New Technique for Hernial Repair in Large Animals—*J. E. Wion* 56
Artificial Insemination in Swine—*John Aamdal and Ivar Hogset* 59

Nutrition

Nutrition and the Streptococcus Agalactiae Activity in Milk—*Pounden—Frank—Brown—Scherer* 65

Editorial

Sir Thomas Dalling, M.R.C.V.S., Retires 68

The News 71

AVMA Report ..... adv. p. 12
Correspondence ..... adv. p. 4 Coming Meetings ..... adv. p. 26

Contents continued on adv. pages 2 and 4

Vol. 131 July 1, 1957 No. 1

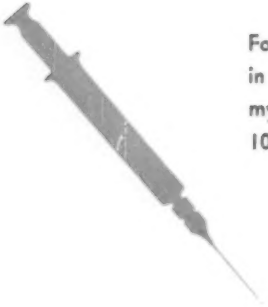
HARD-HITTING!

STATOMYCIN

Statomycin (erythromycin, Corn States) is now available to the veterinarian in a variety of forms. This is the ideal practice antibiotic — safe, well-tolerated, rapid in effect, specific for coccic infections, without side-effect, and bactericidal.

Statomycin tablets are supplied in two convenient dosage sizes (100 mg. and 250 mg. coated tablets) in bottles of 25 or 100. Available also are teamed action Statomycin Sulfa tablets.

STATOMYCIN, I.M.

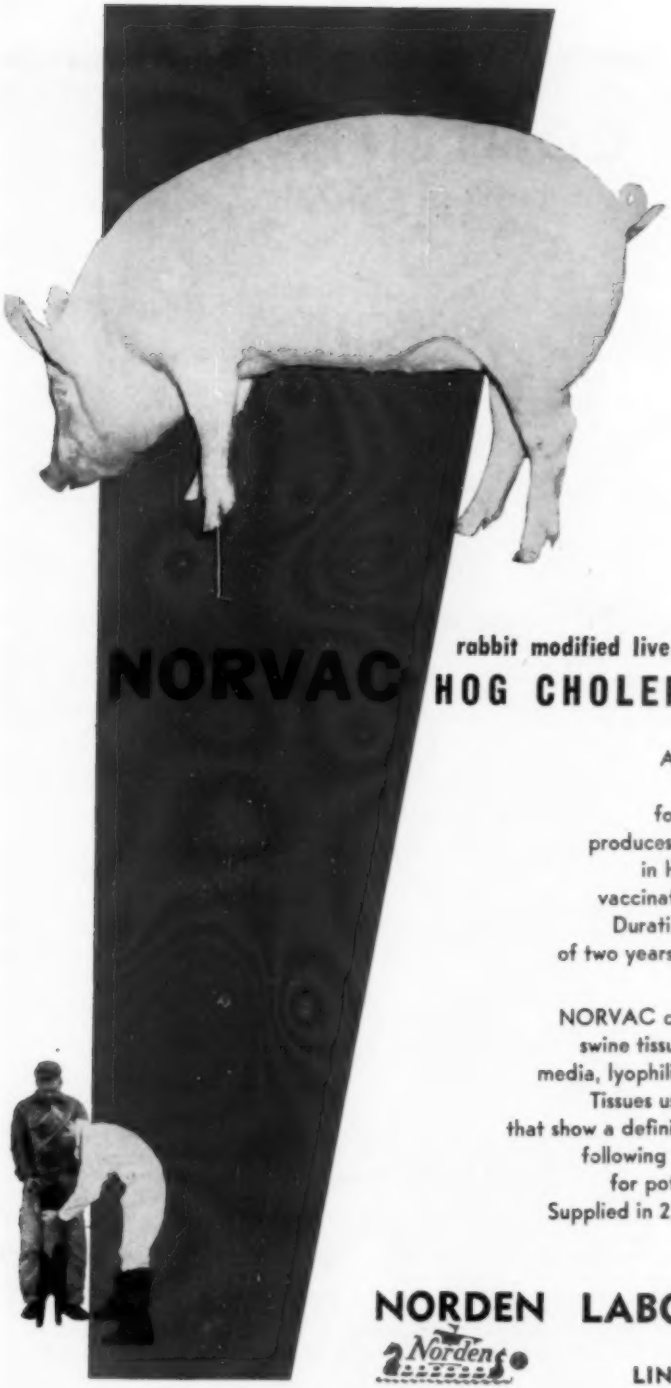


For initiating treatment and for convenience of administration in hospitals or to large animals, this IntraMuscular form of Statomycin provides especially rapid bactericidal effect.

10 cc. vial — 50 mg. per cc. — in plastic shell.

Corn States LABORATORIES, INC.

1124 HARNEY STREET • OMAHA 8, NEBRASKA



NORVAC

rabbit modified live virus, porcine origin

HOG CHOLERA VACCINE

A 2 cc dose of NORVAC used with serum for immediate protection, produces solid, durable immunity in healthy, unexposed swine vaccinated at five weeks of age. Duration of immunity in excess of two years has been demonstrated with this type vaccine.

NORVAC contains finely processed swine tissues, suspended in special media, lyophilized and vacuum sealed. Tissues used come only from pigs that show a definitely prescribed reaction following inoculation. Fully tested for potency, safety and purity. Supplied in 2, 5, 10, 25, and 50 doses with sterile diluent.

NORDEN LABORATORIES

Norden

LINCOLN, NEBRASKA

Journal of the American Veterinary Medical Association

CONTENTS

(Continued from Cover)

THE CLEVELAND SESSION

AVMA Officers 2
House of Representatives 3
Executive and Legislative Sessions 4
Women's Auxiliary Business Sessions 5
Message from the President of the Women's Auxiliary 5
Women's Auxiliary Officers 5
Message from the Co-General Chairmen—Committee on Local Arrangements 6
Chairmen, Local Subcommittees 7
Committee on Local Arrangements, Ninety-Fourth Annual Meeting 8
Message from the Chairman of the Committee on Women's Activities 10
Women's Social Program 11
Teenagers' Program 11
Subteenagers' Program 11
Group Conferences and Meetings 12
Preconvention Conference on Professional and Public Relations 13
Agenda—House of Representatives 14
General Convention Entertainment 16
Golf at Cleveland 16
Opening and Closing Sessions 17
Section Officers—Cleveland Session 18
The Scientific Exhibits 33
The Commercial Exhibits at Cleveland 35

CLINICAL DATA

Unidentified Microfilaria in Dogs 48
New Treatment for Lungworms 48
Cattle Grubs in the Spinal Canal 48
Conquering Mink Diseases 51
Mucosal Disease in Australia 51
Therapy for Chronic Respiratory Disease ... 51
No-Lesion Tuberculin Reactors 51
"Diathelic" Immunization with Milk Antibodies 51
Pantothenic Acid Reduces Toxic Effect of Streptomycin 51

SURGERY AND OBSTETRICS

Fertility and the Age of Bulls 56
Alterations of the Bovine Uterus 56
Nymphomania in Dairy Cows 58
Gut Occlusion by Ovary in the Mare 58
Prevention of Postoperative Adhesions 58
Inseminating Mosquitoes 58
Chickens Thrive Without a Crop 58
Hemorrhages in Estrogen-Treated Dogs 58
Monorchidism in a Horse 64
Treatment of Cryptorchism in Man 64
Hyaluronidase to Reduce Edema 64

NUTRITION

Rumen Inoculation and Growth of Calves .. 67
Extracting Protein from Leaves 67
Amylase and Starch Digestion in Baby Pigs . 67
Study of Unthriftiness in Sheep 67
Feeding Prickly Pear Cactus 67

EDITORIAL STAFF: W. A. Aitken, *Editor in Chief;* Wayne H. Riser, *Editor, Small Animal Medicine;* J. G. Hardenbergh, *Managing Editor;* Helen S. Bayless, *Assistant Editor and Advertising Manager;* Eva G. Bailey, *Assistant to the Editor.*

COMMITTEE ON JOURNAL: T. Lloyd Jones, *Chairman;* Brigadier General Wayne O. Kester, W. W. Armistead (Board of Governors).

$15.00 per Annum **Single Copies, $ .75 Prepaid in U.S.**

Canada and Pan American Countries, $15.50; Foreign, $16.50

Published semimonthly at 600 S. Michigan Ave., Chicago 5, Ill., by the American Veterinary Medical Association. Second class mail privileges authorized at Chicago, Ill., January, 1956. Additional entry at Mendota, Ill.

For the first time . . .
two *living*, modified viruses
are combined in

VIROVAX D-H*

[PATENT PENDING]

for simultaneous immunization
of dogs against
DISTEMPER and HEPATITIS
with a single injection

*Trademark for
CANINE DISTEMPER VACCINE
Modified Live Virus, Chick-Embryo Origin
and INFECTIOUS CANINE HEPATITIS VACCINE
Modified Live Virus, Canine Tissue Culture Origin
Combined, Vacuum Dried

An original research development of

PITMAN-MOORE COMPANY
Division of
ALLIED LABORATORIES, INC.
INDIANAPOLIS 6, INDIANA

Correspondence

April 9, 1957

Dear Dr. Aitken:

I should like to take the liberty of expressing the pleasure I experienced in reading your editorial, "Comments on Veterinary Medical Terms," in the last issue of the JOURNAL, and perhaps to air a few thoughts of my own. I might go a bit further than you have and suggest that those "nice" people who refer to the breasts of bitches and sows are going to an extreme that borders the ridiculous. Of course, times change; I encountered the other extreme when I was studying Latin, which was quite a while ago. Virgil in his *Aeneid* had occasion to refer to these same glands on a woman no less renowned than Dido, Queen of Carthage. The approved translation according to our Latin vocabulary was "udder."

I, too, have been interested in the recent discovery that a limp in the left hindleg is a sign but not a symptom. It is remarkable how the world got along for so many years without knowing about that distinction; it is equally remarkable how many persons turn red with shame when they suddenly learn that some authorities do not approve of "symptom" as it has long been used. One practical point in the argument which has usually been overlooked, is that if you say "symptom" there is no misunderstanding what you mean; if you say "sign"—well, there are neon signs, plus signs, and signs from the heavens.

A somewhat comparable situation appears to me to exist in connection with petechial and ecchymotic hemorrhages. A much-admired teacher of mine used those expressions most of his life and then, in his last years, switched to "petechiae" and "echymoses." Of course there are some grounds for objecting to what amounts to a duplication of the idea of hemorrhage. Still the combined expression has been used by many excellent writers. Comparably, we find in Webster that a dwelling is an abode, a domicile, or a residence and that a dwelling house is a house where one has his residence. I wonder if a certain amount of looseness is not only permissible but desirable.

At any rate, I am glad to notice (p. 308, same issue, "pathological features"; p. 314, "epidemiological surveys") that you have not succumbed to that phobia against words ending in "-ical" which, spreading apparently from the East Coast, has become rather virulent with many who would insist on "epidemiologic" and "pathologic," no matter how harshly those sounds might combine with the syllables which follow. Carried to its logic (al) conclusion, it would give us such expressions as, "Loss of physic strength is an important clinic feature of certain diseases but the medic aspect of the whole matter becomes rather whimsic."

Well, enough of this. Perhaps an editor is entitled to share some of the responsibility with the man whose name is signed to the paper.

Sincerely yours,
s/Hilton Smith

Contents—Continued

CURRENT LITERATURE

Abstracts

Pathogenesis of Parasites 69
Isolation of Vibrio Fetus 69
Susceptibility of Cattle to Brucella Abortus 69
Protection of Sheep from Heat Radiation 69

Foreign Abstracts

Tuberculosis in Dogs 70
Bovine Nerve Blocks 70

Books and Reports

The Physiology and Biochemistry of Lactation 70

THE NEWS

Pathologists Plan Seminar on Photography 71
National Science Association Grants . 71
Laboratory Refresher Course 71
Dr. B. T. Simms Retires 71
Conference on Hog Cholera 72
Veterinarians Featured in Local Papers 72
Among the States and Provinces 72
Foreign News 74
State Board Examinations 74
Deaths 74

The Infectious Diseases of Domestic Animals

With Special Reference to Etiology, Diagnosis, and Biologic Therapy. Third Edition.

By William Arthur Hagan, D.V.M., D.Sc., Professor of Bacteriology and Dean of the Faculty, New York State Veterinary College; and Dorsey William Bruner, D.V.M., Ph.D., Professor of Bacteriology, New York State Veterinary College, Cornell University

Extensively revised, modernized, and enlarged, this is a new edition of a standard book. Cat scratch disease of man, edema disease of swine, atrophic rhinitis of swine, scrapie, infectious infertility in cattle, virus hepatitis of ducklings, the newer vaccines of hog cholera, orphan viruses, the relationship of hard-pad disease of dogs to distemper, and new types of vesicular exanthema are among the subjects which have been revised, expanded, or included for the first time.

988 *pages, frontis., illus.* (17 *new*), *tables,* $10.50

Comstock Publishing Associates

A division of Cornell University Press

124 Roberts Place, Ithaca, New York

NEW TRIPLE-ACTION ECTOPARASITICIDE

announcing

Malingo

TRADE MARK

1. Malathion

2. Lindane

3. Chlordane

for prompt, effective control of

FLEAS · LICE · TICKS

SARCOPTIC & DEMODECTIC MANGE MITES

ACTIVE INGREDIENTS:

Malathion (0,0-diethyl dithiophosphate of diethyl mercaptosuccinate) 1%

Gamma Isomer of Benzene Hexachloride from Lindane 1%

Technical Chlordane 4%

Packages of 12 pints, and gallons.

FORT DODGE®

Pharmaceuticals of Merit for the Veterinarian

★

ARICYL® . . . . . *Injectable arsenical*

DELEGON® . . . . . *Antiseptic dusting powder*

DEMEROL® . . . . . *Analgesic and spasmolytic*

ELDOFORM® . . . . . *Intestinal astringent*

FUADIN® . . . . . *Antimonial therapy against dog heartworm*

ISTIZIN® . . . . . *Stable nontoxic purgative*

NEMURAL® . . . . . *Taeniacide in dogs and adult cats*

NEOPRONTOSIL® . . . *Original injectable sulfonamide*

OMNADIN® . . . . . *For nonspecific protein therapy*

PENTOBROCANAL® . . *Intravenous anesthetic*

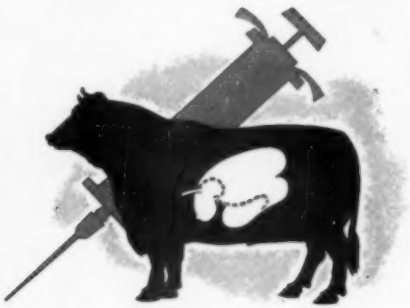
pHisoHex® . . . . . *Antiseptic nonirritating detergent*

ROCCAL® . . . . . *Dependable disinfectant*

NEW VETERINARY HAND BOOK AND PRICE LIST
GLADLY SENT ON REQUEST

Veterinary Division Winthrop LABORATORIES New York 18, N. Y.

LIVESTOCK PARASITE PROBLEM IS SERIOUS—EVEN IN NORTHERN STATES



Here's one answer to the problem:

New 3-Step Program for Control of Internal Parasites in Livestock

More and more research indicates that even long, cold winters do not kill internal parasites in livestock. From Vermont, for example, a report* shows the discovery of acute submaxillary edema in a herd of heifers just put on pasture. Later autopsy revealed extreme parasitic infestation of Haemonchus Contortus. Similar conditions are recorded by veterinarians in every northern state. Yet *few farmers realize the seriousness of the worm problem.*

To impress farmers with the importance of having animals—even when apparently healthy—checked and treated for internal parasites, International Salt Company is backing a new "3-step program" for internal-parasite control. The first two steps of this program promote regular veterinary consultation.

STEP ONE: Constant herd supervision by a veterinarian, so that parasitic infestations and other diseases can be prevented by early treatment.

STEP TWO: Therapeutic phenothiazine treatment by a veterinarian at least twice a year—when livestock go on pasture, and when they come off.

STEP THREE: Daily low-level feeding of phenothiazine in salt (the ideal natural carrier) to maintain constant suppression of viable eggs.

This important program is being promoted to farmers, feed mixers, manufacturers and dealers everywhere. In this promotion, we are showing how the veterinarian plays a vital role in helping cattle producers, dairymen, and sheepmen make more profits.

For step three of the program, the product that is gaining acceptance everywhere is Sterling Green'salt—a special development of the International Salt Company. A trace-mineral salt with 10% phenothiazine added, Sterling Green'salt can be fed free-choice or mixed in feed. In either case, it has proved effective in controlling certain internal parasites in sheep and cattle. International has solved the phenothiazine-palatability problem by adding an exclusive new flavor ingredient, Sucarob, to Green'salt. As a result, animals will eat as much of this salt product as they need—every day.

Service—from International's Animal Nutrition Department. If you'd like more data on Sterling Green'salt, or information on the use of salt and trace minerals in modern livestock and poultry feeding programs—contact International's Animal Nutrition Department at Watkins Glen, N.Y. This department does continuing research into the proper feeding of salt and trace minerals . . . works with veterinarians, farm advisers, feed mixers and manufacturers . . . and coordinates advanced test programs with leading colleges and experiment stations. We will be glad to cooperate with you in any way.

**Report on herd of M. D. Bibens, West Rupert, Vermont*

STERLING GREEN'SALT SALT + 10% PHENO + TRACE MINERALS

Product of INTERNATIONAL SALT COMPANY, INC., Scranton, Pa.

effective veterinary drugs, product of exacting research

CIBA

Important Announcement CIBA is pleased to announce that its line of effective veterinary drugs is now sold directly to the distributors listed below. In keeping with our ethical standards, these CIBA products are available only to graduate veterinarians, and not as shelf goods for "do-it-yourself" medication.

Ethical Distributors Designated by CIBA A. J. Buck and Son, Baltimore, Md. / Barber Veterinary Supply Co., Inc., Richmond, Va. / Central City Chemical Consolidated, San Francisco, Calif. / Chicago Veterinary Supply Co., Chicago, Ill. / Detroit Veterinary Supply Co., Detroit, Mich. / Edwards Veterinary Supply Co., Kansas City, Mo. / Frank E. Lentz Co., Philadelphia, Pa. / Goshen Laboratories, Inc., Goshen, N. Y. / Lyle A. Witmey Co., Denver, Colo. / Miller Veterinary Supply Co., Fort Worth, Tex. / Nelson Laboratories, Sioux Falls, S. Dak. / Northland Veterinary Supply Co., St. Paul, Minn. / Northwest Veterinary Supply Co., Oregon City, Oreg. / Portland Veterinary Supply Co., Portland, Oreg. / Professional Veterinary Supply, Albuquerque, N. Mex. / Sharpe and Vejar Co., Los Angeles, Calif. / Standard Veterinary Products, New York, N. Y. / W. A. Butler Co., Columbus, Ohio / Walter Harrison Veterinary Supplies, Miami, Fla.

The CIBA Line of Veterinary Pharmaceuticals

CORAMINE®
(nikethamide CIBA)

DIGIFOLIN®
(purified digitalis glycosides CIBA)

METANDREN®
(methyltestosterone CIBA)

NUPERCAINAL® Ointment
(dibucaine ointment CIBA)

OVOCYLIN® dipropionate
(estradiol dipropionate CIBA)

PERANDREN® propionate
(testosterone propionate CIBA)

PERISTALTINE®
(water soluble alkaloids of ergot CIBA)

PYRIBENZAMINE® hydrochloride
(tripelennamine hydrochloride CIBA)

SERPASIL®
(reserpine CIBA)

TRASENTINE® hydrochloride
(ipecac alkaloids hydrochlorides CIBA)

TRASENTINE®-PHENOBARBITAL

VIOFORM®
(iodochlorhydroxyquin CIBA)

ENTERO-VIOFORM®

Sharp++

to calm the hard-to-handle dog

SERPASIL®

". . . indicated in controlling abnormal emotional responses in dogs where they create a problem for the veterinarian and the owner."[1]

Serpasil improves the value of highly nervous dogs as companions[1]— The drug reduces frequency of barking, pacing, drooling induced by stressful conditions such as transportation, visitors to the home and holiday tensions and noises.

Serpasil aids veterinarians in the management of hard-to-handle dogs[1]— Given 2 to 3 days beforehand, Serpasil calms nervous, vicious animals prior to examination, grooming, surgery and bandaging and . . . Serpasil tranquilizes excitable dogs being maintained in boarding kennels and hospitals.[2]

Usual dosage: Daily dose range of 0.01 to 0.02 mg./kg. of body weight (0.2 mg. daily for a 20-lb. dog). Initially this should be divided into a morning and evening dose. Once the desired effect is achieved, single daily doses will usually suffice to maintain animals. Doses as low as half of a 0.1-mg. tablet are sufficient in toy breeds.

Supplied: Tablets, 0.1 mg. (white) and 0.25 mg. (white, scored); bottles of 100, 500 and 1000.

CIBA
SUMMIT, N. J.

1. Karmin, L. R.: N. Am. Veterinarian 36:846 (Oct.) 1955. 2. Earl, A. E.: J. Am. Veterinary Med. Assoc. 129:227 (Sept. 1) 1956.

2/2431V-K

New Meat Product

for Instant Mixing with Dry Dog Foods

LOW COST
HIGH PROTEIN MINERALS
VITAMINS

4 BIG ADVANTAGES

1. ECONOMY

4-PAW is lower in moisture than other meat products such as horse meat or beef, because some water is removed from 4-PAW during processing. By mixing one part 4-PAW with two parts Dry Dog Food (kibble or meal) and adding warm water to obtain consistency desired, you have top nutrition at minimum cost.

2. CONVENIENCE

No cooking—you MIX 4-PAW just as it comes from the can. Completely sterile in the can, 4-PAW needs no refrigeration. After opening, treat like meat. Even the size container is custom-planned for you. Each can is 6 pounds 8 ounces, packed 6 to the case. Also available in 100 lb. pails or 490 lb. drums.

3. AVAILABILITY

If you have been feeding horsemeat, you have probably worried about supplies and high costs. 4-PAW is the progressive answer. It will continue to be in good supply at reasonable prices because it is made of meat by-products from government inspected food animals.

4. NUTRITION

96% of 4-PAW consists of carefully selected meat by-products including generous amounts of liver from our own controlled, meat packing plants. Other ingredients supply calcium, phosphorus and vitamins.

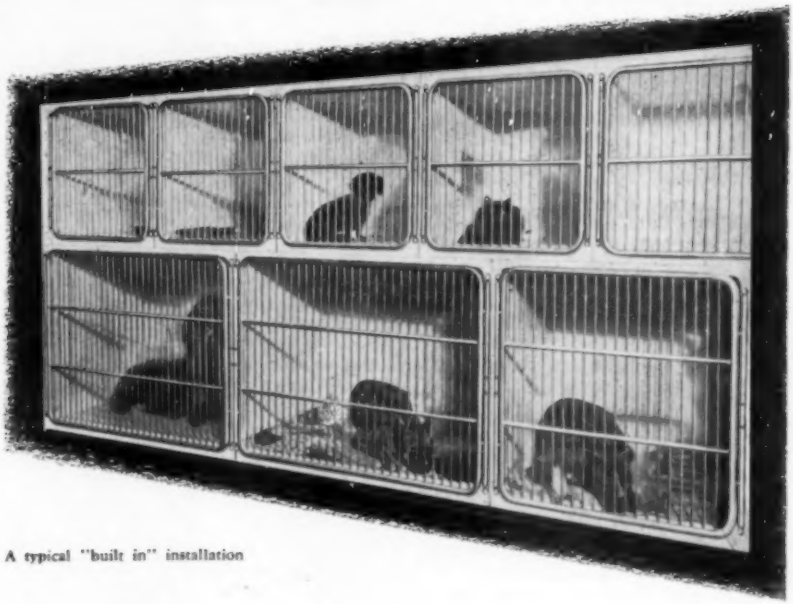
Meat by-products	96%	Phosphoric acid	1.4%
Dicalcium phosphate	2.4%	Red Iron Oxide	0.1%
Cod Liver Oil	0.05%		

(Distributor Inquiries Invited)

Ask your local distributor, your Wilson & Co. Representative for prices and free folder, or write: Wilson & Co., Inc., Meat Packers, Prudential Plaza, Chicago 1, Ill.

4-PAW IS THE GREATEST SMALL ANIMAL NUTRITION DISCOVERY IN RECENT YEARS

The MOST EFFICIENT animal cage available today!



A typical "built in" installation

four years and over 5,000 cages later the ORIGINAL glass-plastic cage has PROVEN its superiority

Molded seamless construction from materials and by production methods developed especially for animal cages.

- Rounded corners for ease of cleaning.
- Highly stain and scratch resistant—chip proof.
- Warm to the touch—better for your patients.
- Built in floor design—your choice of backward slope, forward slope, or flat.
- Sanitary Aluminum Trim moulding furnished with each installation—eliminates possibility of liquids gaining access to supporting framework.

Life-Time Aluminum door with positive one side opening hardware. Hardware to allow door to be opened from either side at slight additional cost . . . Catch portion of door hardware mounted on all cages at factory . . . eliminates practically all door installation labor.

Write dept. C-3 for literature and prices.

Guaranteed by

Kirschner

MANUFACTURING COMPANY
Vashon, Washington

MANUFACTURERS OF KIRSCHNER FRACTURE EQUIPMENT
GLASS-PLASTIC CAGES LIFETIME CAGE DOORS

AVMA ☆ Report

Veterinary Medical Activities

✦ President Wayne O. Kester's travel schedule to attend association meetings this spring and early summer included the following:

AAHA—San Francisco, May 8-11. On this trip, he also visited and spoke to the Student Chapters at the University of California, Davis; Oklahoma A. & M. College, Stillwater; and Washington State College, Pullman.

A.M.A. House of Delegates (opening session)—New York, June 3.

Wyoming V.M.A.—Lander, June 15-17.

Idaho V.M.A.—McCall, June 20-21.

Alberta (Can.) V.M.A.—Lethbridge, June 21-22.

Utah V.M.A.—Logan, June 25-26.

Montana V.M.A.—Billings, June 28-30.

In July, President Kester will appear on the programs of the Mississippi V.M.A. in Jackson (14-16) and the Canadian V.M.A. in Vancouver, B.C. (22-24).

* * *

President-Elect W. W. Armistead was on the programs of the North Dakota V.M.A. meeting in Minot, June 17-18, the South Carolina Association of Veterinarians in Charleston, June 21-22, and the Georgia V.M.A. in Athens, June 23-25.

* * *

✦ Assistant Executive Secretary H. E. Kingman, Jr., will attend and speak at the meeting of the Nebraska V.M.A. in Alliance on July 13-15.

* * *

✦ Several AVMA committees met at Association headquarters in recent weeks:

April 15—Subcommittee on Pet Hospital Insurance of the Committee on Veterinary Services. Attending were Drs. F. T. Candlin, chairman; E. J. Frick, C. C. Rife, F. R. Booth, and J. K. Bone.

April 18-19—Committee on Food Hygiene: Drs. C. H. Pals, chairman; R. K. Anderson, J. W. Cunkelman, R. J. Helvig, W. M. D. Nettles, and E. J. Rigby.

May 7—Special Committee on Veterinary Supply Problems: Drs. Frank B. Young, chairman; Rolland Anderson, P. E. Madsen, A. G. Misener, and A. H. Quin.

May 25-26—Council on Education: Drs. J. E. Green, chairman; R. E. Rebrassier, secretary; I. B. Boughton, N. W. Pieper, and M. S. Shahan; Drs. C. A. Edge and E. E. Slatter were unable to attend and Col. W. E. Jennings, the ninth member, is still stationed in Europe.

* * *

✦ The Board of Governors (Drs. T. Lloyd Jones, chairman, W. O. Kester, and W. W. Armistead) will meet in Chicago on July 6-7 and the Board of Trustees of the AVMA Group Insurance Trust will convene on July 8.

* * *

✦ Executive Secretary Hardenbergh and Assistant Executive Secretary Kingman will meet on the evening of July 8 in Philadelphia with the officers of the local arrangements committee for the 1958 convention. On July 9 they will attend a meeting of representatives of constituent associations in Executive Board District II (Del., D.C., Md., N.J., and Pa.) which was arranged by Board member Dr. S. F. Scheidy.

* * *

✦ Lt. Col. Norbert Lasher, V.C. (USAF), stationed in England, represented the Association at the British Health Congress in Folkestone, April 30-May 3. He will also represent the AVMA at the British Veterinary Association Congress in Cambridge next August.

Affiliated Brand

RABIES VACCINE

MODIFIED LIVE VIRUS—CHICK-EMBRYO ORIGIN—DESICCATED

A Superior Type... Gives Long Lasting Immunity

Affiliated Brand Rabies Vaccine is prepared from the chick embryo adapted attenuated Flury strain of rabies virus. The inoculated chicken embryos are harvested at time of maximum virus content. The harvested tissue is processed and desiccated from frozen state.

Experience indicates a single intramuscular injection of 3 cc of Rabies Vaccine, modified live virus, chick embryo origin induces a lasting *immunity within* 21 *days* after vaccination. This vaccine does not cause disease when injected . . . The test for potency of Affiliated Brand Rabies Vaccine is based on protection of guinea pigs against a challenge dose of virulent rabies street virus.

Supplied in: Single dose package (Vaccine and Diluent); Package of 5—1 dose vials (Vaccine and Diluent).

ALSO...

CANINE DISTEMPER VACCINE

Single dose gives prompt, enduring immunity!

Affiliated Brand Canine Distemper Vaccine, Modified Live Virus, Chick Embryo Origin, Desiccated, is prepared from an attenuated strain of canine distemper virus grown on embryonated eggs . . . A single 2 cc dose injected into healthy animals induces a prompt immunity. It is well tolerated and will not produce distemper in healthy pups. Potency and safety is determined by protection tests in highly susceptible animals such as ferrets or pups.

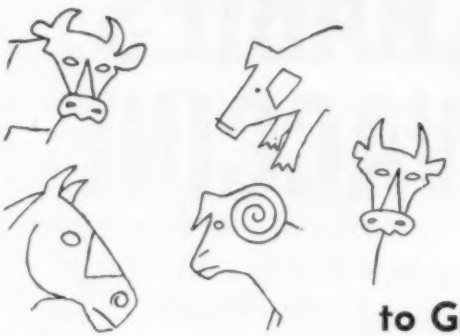
Affiliated

AFFILIATED LABORATORIES CORPORATION

The Gregory Laboratory, Inc.
Grain Belt Supply Co.
Corn Belt Laboratories, Inc.
The National Laboratories Corp.

PRODUCED FOR AND SOLD TO GRADUATE VETERINARIANS ONLY

For Superior Effectiveness



HORMONES

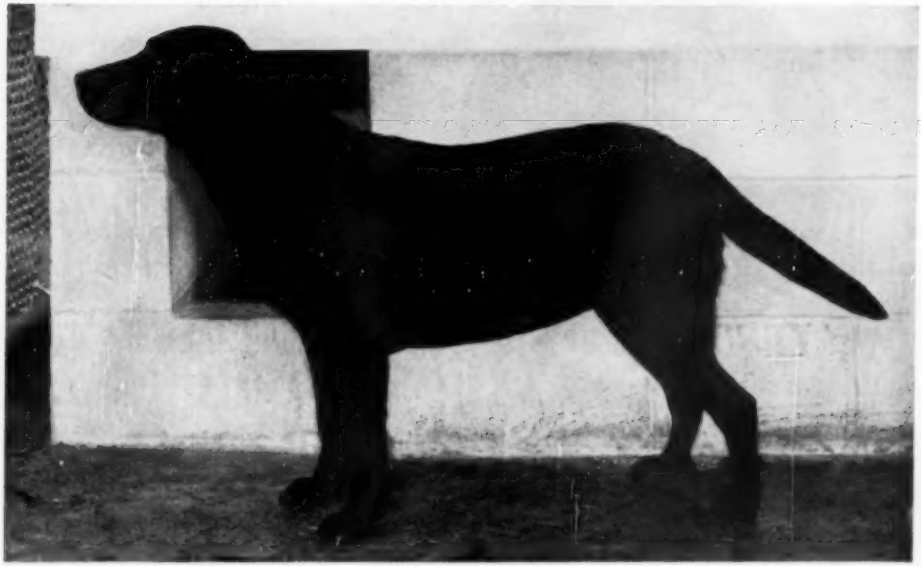
By ARNOLD

Sold only to Graduate Veterinarians

PRODUCT	DESCRIPTION	INDICATIONS
DIENESTROGEN	5 mg. Dienestrol/cc. in special oil base. 10 cc. vials.	To promote conception in "shy-breeding" cows.
ESTRADIOGEN	3 mg. Estradiol Dipropionate/cc. in special oil base. 10 cc. vials.	For anestrus, mummified fetus, pyometra, urinary incontinence, enlarged prostate.
POSTERIOR PITUITARY Double U.S.P.	20 U.S.P. units/cc. Posterior Pituitary. 10 cc. vials.	To stimulate contraction of smooth muscles of uterus, urinary bladder, blood vessels, intestines or milk acini.
PROGESTERONE	10 mg. Progesterone/cc. in special oil base. 10 cc. vials. 50 mg. Progesterone/cc. in oil with 10% benzyl alcohol. 10 cc. vials.	To prevent habitual and threatened abortion, treat cystic ovaries and nymphomania, delay estrum, stimulate endometrial development and secretions, favor nidation of ovum.
STILBESTROGEN	Diethylstilbestrol fortified with Estradiol Dipropionate in special oil base. No. 4—4 mg. Stilbestrol w/ 1600 units Estradiol per cc., 60 cc. vials. No. 10—10 mg. Stilbestrol w/ 4000 units Estradiol per cc., 30 cc. and 60 cc. vials. No. 25—25 mg. Stilbestrol w/ 10,000 units Estradiol per cc., 10 cc. and 30 cc. vials.	For anestrus, retained placenta, mummified fetus, pyometra, inhibition of lactation, urinary incontinence, vaginitis in spayed bitches.
TESTANDROGEN	Testosterone Propionate/cc.; 25 mg. in oil, 10 cc. vials. 50 mg. in oil, with 2% benzyl alcohol. 10 cc. vials. 100 mg. in oil with 10% benzyl alcohol. 10 cc. vials.	For cryptorchidism, hypogenitalism, hypogonadism, impotency, senility, eczema; stimulation of bone formation; fracture repair, osteoporosis; inhibition of lactation, mammary carcinoma.

Arnold LABORATORIES

NEW CASTLE, INDIANA, U. S. A.



This dog has never tasted meat

...yet is in perfect condition

Many dog experts feel that dry dog food should be supplemented by fresh meat. And the makers of Friskies recognize that the addition of meat is a widely accepted practice among dog breeders, kennel men and dog owners.

HOWEVER, in the case of Friskies, we've found in test after test that adding fresh meat to Friskies Meal is not necessary. Friskies in its meal form, actually supplies all the nourishment of finest fresh meat—plus the other necessary food elements, vitamins and minerals for a complete and fully balanced dog diet.

CONTINUOUS MAINTENANCE TESTS. The Labrador brood bitch pictured above is one of many dogs undergoing continuous maintenance tests at the Friskies Research Kennels. Fed since weaning on a diet of Friskies Meal exclusively, she is typical of four generations of dogs grown to maturity and maintained in perfect condition on this scientifically balanced dog food.

SPLIT-LITTER TESTS. In these special tests, half the litter is fed on Friskies Meal alone, while the other half is fed Friskies Meal with the addition of fresh meat and other foods. In no instance has any benefit been noted from the addition of supplements to the Friskies Meal diet. You can feed and recommend Friskies Meal as a complete and balanced dog food diet.

Mixes Instantly— Just add water. Ready at once. Won't mush. Feeding bowl rinses clean. Complete nutrition at its best.

FOR VARIETY—Canned Friskies. Principal ingredient lean red horse meat including choice steaks, chops, roasts. A complete and perfectly balanced dog food.

Carnation *quality products*

ALBERS MILLING CO., DIV. OF **CARNATION COMPANY,** LOS ANGELES 36, CALIFORNIA

for
topical
infections...

KERASPRAY

antiseptic
bacteriostatic
fungicidal
local anesthetic

Keraspray provides four potent antibacterials, plus an anesthetic, in just one puff. Keraspray, in an easy-to-use plastic insufflator, offers effective therapy for eye and ear infections, infected wounds, and following dehorning and castration.

Each 14 gm. plastic insufflator contains:

Neomycin sulfate	0.25%
Phenylmercuric nitrate	0.005%
Sulfanilamide	86.25%
Sulfisoxazole	10.0%
Tetracine hydrochloride	0.5%

THE S. E. MASSENGILL COMPANY • VETERINARY DIVISION • BRISTOL, TENNESSEE

NEW antibacterial, antifungal ointment

A new bactericidal *and* fungicidal agent, Triocil is especially valuable in the treatment of skin infections and other types of dermatoses, otitis externa, eczemas, balanitis, cuts, lacerations, gland infections, and other skin conditions where infection is a factor.

Triocil has these important advantages:

- a strong affinity for tissue, prolonging its action.
- exerts a killing effect (not merely inhibitory).
- has a wide range of action (effective in mixed infections).
- no resistance has developed in extensive clinical tests.

Administration: Triocil Ointment should be applied directly to the affected area. It spreads easily and adheres well. Usually one application daily is sufficient, but treatment may be repeated as often as necessary.

Supplied: Tubes of 20 and 50 grams, convenient both for hospital and office use and for dispensing.

Available exclusively through ethical veterinary distributors.

Triocil

brand of hexetidine TRADEMARK

OINTMENT 0.5%

DIVISION OF VETERINARY MEDICINE

WARNER-CHILCOTT

Laboratories Div. MORRIS PLAINS, N.J.

7 out of 8

nonspecific dermatoses cases

completely controlled*

Like a shampoo, SELEEN lathers fast, rinses easily, has a pleasant odor and leaves no stains for carpets or furniture.

®SELEEN—SELENIUM SULFIDE, ABBOTT 707210

—And another 11% of such cases were definitely improved, during the extensive clinical trials of

SELEEN®

SUSPENSION

Moreover, SELEEN is effective against demodectic mange, too. In addition, you can expect SELEEN therapy to—

- *relieve itching and scratching*, often in the very first treatment.
- *kill ectoparasites*—including fleas, lice and demodex mange mites.
- *cleanse skin and haircoat*—remove tissue debris.
- *improve appearance of coat*—give it a glossier, more natural look.

Sold to veterinarians only, SELEEN is supplied in 6-fl.oz., pint and economical gallon bottles. Order from your nearest Abbott branch, your distributor or Veterinary Division, Abbott Laboratories, North Chicago, Ill. Abbott

*Complete literature, with clinical data, available on request.

equipment news

for the practicing veterinarian

NICHOLSON

NEW! the improved Frank's Fetal Extractor

Nicholson now brings you the improved Frank's Fetal Extractor. Proved in thousands of cases, this instrument deftly assists with an infinite amount of pull on the newborn. Makes difficult OB cases almost simple. Assembles in a minute, completely portable. Write for folder N-F.

NEW! Copon kennel paint refinishes rusty kennels

This new special plastic paint was developed for refinishing metal kennels. Gives hard, baked-enamel-like surface without baking. Makes your old rusty kennels like new. Works wonders on wood and concrete too. Can be brushed, rolled, or sprayed. Choice of colors. Write for folder N-C.

NEW! clear plastic cases for your glass syringes

Keep syringes sterile, clean in these light unbreakable plastic cases. Covers for 5, 10 and 20 cc. syringes, $5.75 set, folder N-4 gives details.

NEW! plastic sign letters for your office

Our new selection of beautiful weatherproof plastic signs will dress-up your office or clinic. All sizes, colors; easily installed. Write for folder N-5. We ship them ready to install with simple tools.

NEW! do-it-yourself Plasti-Plated cages

Before you buy cages, write for folder N-2 on our amazing new Plasti-Plated kennels. Rock-hard, glass-smooth, seamless surfaces. Inexpensive, easy to do-it-yourself! We supply materials and complete instructions. Will furnish complete kennels if you prefer.

NEW! radiant heated warming panel

This electrically operated radiant heat panel eliminates messy boxes and blankets, hot pads, etc., when keeping weanlings warm, treating patients in shock. Heavily Plasti-Plated to resist stains, urine, etc. Shock-proof. 2 convenient sizes. Uses 110 v. current. Write for folder N-R.

durable, metal sheathed instrument/serum cases

Baked black enamel over steel with brass trim. 5 standard models; light weight yet built to take knocks! See folder N-1 for sizes, prices. Most are in stock, ready to ship.

hi-current electric firing iron

Most modern, up-to-date way to fire horses, remove warty growths, ear polypi, tumors. Complete with 11 points/tips. Operates on 110 v. barn current. A superb instrument for horse practice. Write for folder N-6.

electric "B" dairy cow branding iron

Heats in 90 seconds, makes a clean brand, weighs only 11 ounces. T and V brands available too. Uses 110 v. current, won't smoke. Write for folder N-3.

Please send me the folders I've checked below.

- ☐ folder N-1 cases
- ☐ folder N-2 Plasti-Plate
- ☐ folder N-3 "B" irons
- ☐ folder N-4 syringe cases
- ☐ folder N-5 sign letters
- ☐ folder N-6 firing irons
- ☐ folder N-F extractor
- ☐ folder N-R radiant panel
- ☐ folder N-C COPON paint

DVM _____

street _____

city _____

Nicholson Manufacturing Inc.

2440 East Third Avenue Denver 6

clip and mail today

VARITON cream

diphemanil methylsulfate 2%

relieves itching and speeds healing in "hot spot" eczemas, pustular and nonspecific dermatoses

STOPS that scratching reflex

...an unusually effective topical agent

Relieves irritation and suppresses inflammation after one or two applications; dries lesions and permits scabs to form, usually in 24 hours. In mild cases complete healing occurs in two to three days.

...prevents spreading and secondary infection

Prompt relief of itching reduces danger of self-mutilation and infection due to scratching.

...well tolerated

No systemic side effects or sensitivity reactions have been observed.

AN EXCELLENT DISPENSING ITEM

VARITON inhibits excessive secretion of acetylcholine at nerve endings, the mechanism which triggers pruritus, inflammation and edema.

VARITON Methylsulfate Cream 2%: 50 Gm. tube, boxes of 1, 12 and 72; 20 Gm. tube, boxes of 12 and 72.

SCHERING CORPORATION · BLOOMFIELD, NEW JERSEY Schering

V-VT-J-367 VARITON® Methylsulfate, brand of diphemanil methylsulfate, veterinary.

in Anthrax

the way it was

"From what has been said of this disease it will be readily conceived that treatment will be doubtful in its results, and in most cases useless. Chief among the remedies provided are chlorate of potash, turpentine, carbolic acid, blood-letting, saline preparations, and locally — hot fomentations, stimulant embrocations and setons."

McEachran, D.: Am. Vet. Rev. 2:108 (Jan.) 1879.

the way it is

"Some cases [of anthrax] failed to respond to penicillin therapy. Terramycin was then used concurrently with penicillin and the response was prompt and effective.

"More than 65 cases treated with Terramycin alone responded promptly. The initial dose was approximately 2 mg./lb. the first day, then 1 mg./lb./day as long as indicated.

"To date, 214 cases have been treated with Terramycin intravenously, Terramycin intravenously plus penicillin intramuscularly, and penicillin alone. In the majority of cases, Terramycin alone yielded the most satisfactory results." Baker, W. W.: J. A. V. M. A. 122:28. (April) 1953.

Pfizer

TERRAMYCIN

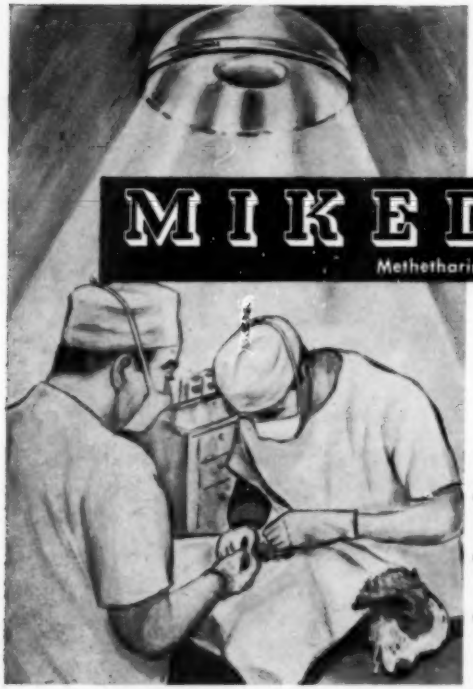
TERRAMYCIN INTRAVENOUS-VETERINARY Vials of 250 mg., 500 mg., 1 Gm. and 2.5 Gm. with Water for Solution, U.S.P.

TERRAMYCIN INTRAMUSCULAR-VETERINARY Vials of 100 mg., 1 Gm. and 3 Gm.

sold to veterinarians only

Department of Veterinary Medicine

PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N.Y.



FOR BETTER MANAGEMENT OF BARBITURATE ANESTHESIA

MIKEDIMIDE*

Methetharimide, PARLAM TRADEMARK

THE BARBITURATE ANTAGONIST OF CHOICE

...INCREASES RESPIRATION

...RESTORES REFLEXES

...SHORTENS SLEEPING TIME

MIKEDIMIDE *is indicated*

MIKEDIMIDE

MIKEDIMIDE has a high therapeutic index, and no signs of toxicity have been observed. Animals can be put to sleep or awakened almost at will, by the alternate use of barbiturate and MIKEDIMIDE without apparent harm to the animal.

MIKEDIMIDE is supplied in 10 ml., 60 ml. and 120 ml. multiple dose vials for parenteral use.

- As a STRONG RESPIRATORY STIMULANT in the presence of barbiturates.
- As a STRONG CIRCULATORY STIMULANT in the presence of barbiturates.
- To QUICKLY AMBULATE the animal after surgery.
- To SHORTEN SLEEPING TIME under anesthesia.
- For ROUTINE ANTAGONISM THERAPY against barbiturate anesthesia.
- For EMERGENCY TREATMENT for barbiturate overdose and respiratory depression.
- To ACHIEVE A "SAFE PLANE" of anesthesia during and after prolonged surgery.

Literature available on request.

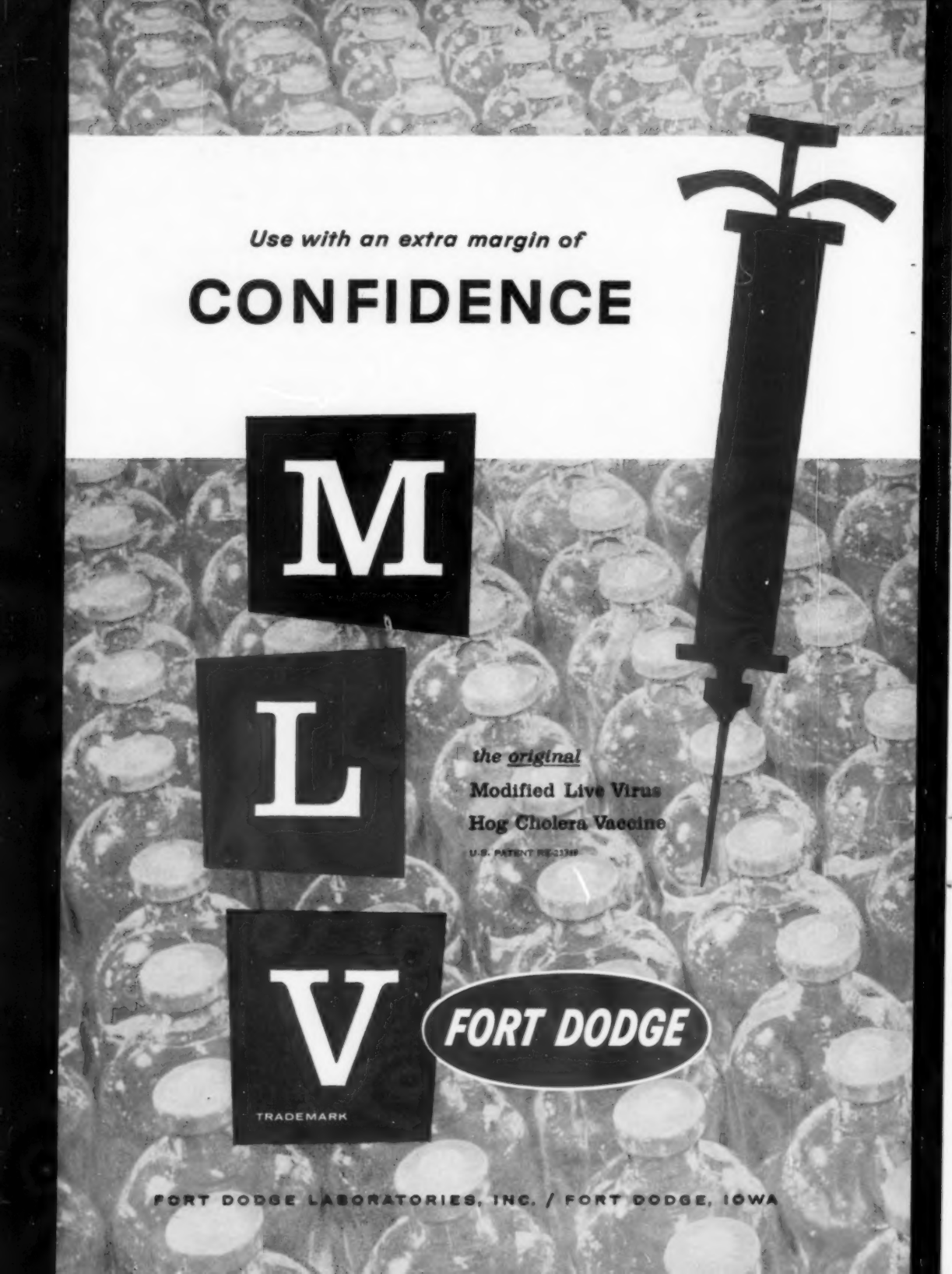
TARGET POINT CHEMOTHERAPY

Parlam CORPORATION ● 340 Canal Street New York 13, N.Y.

*Patent applied for.

SOLE CANADIAN DISTRIBUTOR: Veterinary Medical Supply Co. of Canada, 6579 Somerled Ave., Montreal, Que.

"Pioneer in veterinary medicine for target point chemotherapy"


Use with an extra margin of
CONFIDENCE
M
L
V
TRADEMARK
the original
Modified Live Virus
Hog Cholera Vaccine
U.S. PATENT RE-21349
FORT DODGE
FORT DODGE LABORATORIES, INC. / FORT DODGE, IOWA

JOURNAL
of the American Veterinary Medical Association

Established January, 1877 — Chicago 5, Illinois

Vol. 131 — JULY 1, 1957 — No. 1

Copyright 1957 by the American Veterinary Medical Association

The Cleveland Meeting

A Message from President Kester

As your president, let me make this the "Official Call" for the Ninety-Fourth Annual Meeting of your American Veterinary Medical Association in Cleveland, Ohio, Aug. 19-22, 1957, and invite each of you and your families to be there.

Cleveland, the lake shore city accustomed to handling huge convention crowds, is ready. A mammoth convention hall on the waterfront; more than ample hotel space, conveniently located; air conditioning, if needed—all completely organized and made ready for us by the active and efficient Cleveland Committee on Local Arrangements.

This is your convention. Many of the pressing problems of our profession, some of them affecting your future, will be debated and courses of action will be determined in Cleveland. Your Executive Board member and your delegate to the House of Representatives will be in business sessions for nearly five days. Remember, they can use your help and guidance in deliberating the current and future problems of veterinary medicine.

One very attractive feature often overlooked is the numerous meetings of allied veterinary groups held under the auspices and in conjunction with the AVMA convention. Well over a dozen veterinary specialty groups will convene for business sessions. Several fraternal and all veterinary alumni associations have meetings or banquets scheduled. There will be ample room convenient and available for all such groups this year.

The preconvention conference on "Professional and Public Relations," to be held all day Sunday, August 18, is open to you and will be well worth attending. All aspects of public relations—what it is, how to use it, how not to use it, and what to expect of it—will be discussed by outstanding authorities in this specialty.

This convention is a big event for the whole family. With a full schedule for the Women's Auxiliary and all the fine entertainment planned by the local committee for the ladies and youngsters, it will be a busy week indeed.

President W. O. Kester

There will be more extracurricular events than one can take in: big league baseball, the music festival, Cleveland's incomparable shows, horse racing, and lake cruises. And there will be no problem getting there—turnpikes, railroads, and airlines converge from all directions.

Anticipating, by far, the best attendance in history, a professional program to match has been prepared. Ample closed-circuit television equipment will make it easy to cover the many high points in all sections. Each year, this and other principal features of our professional program continue to improve and this year bids to top them all.

Cleveland and the AVMA are all set for our best convention. We will see you there!

AVMA Officers, 1956-1957

President—W. O. Kester, Washington, D.C.
President-Elect—W. W. Armistead, College Station, Texas.
Vice-President (Zone 1)—K. Maynard Curts, Kansas City, Kan.
Vice-President (Zone 2)—M. W. Allam, Philadelphia, Pa.
Vice-President (Zone 3)—Kenneth Whittington, Memphis, Tenn.
Vice-President (Zone 4)—C. U. Duckworth, Berkeley, Calif.
Vice-President (at Large)—M. D. Baum, Denver, Colo.
Executive Secretary—J. G. Hardenbergh, Chicago, Ill.
Assistant Executive Secretary—H. E. Kingman, Jr., Chicago, Ill.
Treasurer—H. E. Kingman, Jr., Chicago, Ill.

Executive Board

(Year in which term expires is shown in parentheses)

Chairman—T. Lloyd Jones (1957), Guelph, Ont.
District I—T. Lloyd Jones, *ibid.*
District II—S. F. Scheidy (1958), Drexel Hill, Pa.
District III—L. M. Hutchings (1958), Lafayette, Ind.
District IV—R. S. Sugg (1959), Auburn, Ala.
District V—F. B. Young (1960), Waukee, Iowa.
District VI—J. M. Arburua (1961), San Francisco, Calif.
District VII—E. C. Stone (1960), Pullman, Wash.
District VIII—D. J. Anderson (1961), Smithfield, Texas.
District IX—Edwin Laitinen (1957), West Hartford, Conn.
District X—W. O. Brinker (1959), East Lansing, Mich.

EX OFFICIO MEMBERS OF EXECUTIVE BOARD

W. O. Kester (1958), Washington, D.C.
W. W. Armistead (1959), College Station, Texas.
Floyd Cross (1957), Fort Collins, Colo.

Board of Governors

T. Lloyd Jones, *Chairman;* W. O. Kester, W. W. Armistead.

Advisory Committee—AVMA House of Representatives

W. T. Oglesby, Louisiana, *Chairman*
M. R. Blackstock, South Carolina
J. O. Knowles, Florida
W. T. Oglesby, *ibid.*
N. W. Pieper, Connecticut
A. P. Schneider, Idaho
E. W. Young, Washington, D.C.

House of Representatives

(As of May 10, 1957)

	Votes	*Delegate*	*Alternate*
Alabama	(3)	McKenzie Heath	J. E. Greene
Arizona	(2)	Keith O. Lassen	R. M. Carter
Arkansas	(2)	W. L. Thomas	Q. R. Jerome
California	(5)	Charles J. Parshall	Fred B. Pulling, Jr.
Colorado	(3)	V. D. Stauffer	Francis T. Candlin
Connecticut	(2)	Niel W. Pieper	Irving R. Vail
Delaware	(2)	E. L. Symington	C. A. Woodhouse
District of Columbia	(2)	E. R. Goode, Jr.	W. I. Gay
Florida	(3)	Jack O. Knowles	Karl R. Owens
Georgia	(4)	C. C. Von Gremp	Thomas J. Jones
Idaho	(2)	Arthur P. Schneider	L. V. Ruebel
Illinois	(5)	A. G. Misener	C. M. Rodgers
Indiana	(4)	Homer D. Carter	George W. Gillie
Iowa	(5)	C. D. Lee	F. J. Linn
Kansas	(3)	Forrest L. Hart	J. F. Knappenberger
Kentucky	(3)	H. A. Gray	Tom S. Maddox
Louisiana	(3)	W. T. Oglesby	J. E. Blunschi, Jr.
Maine	(2)	Alfred E. Coombs	J. Franklin Witter
Maryland	(3)	M. H. Jacobs	Irvin W. Frock
Massachusetts	(3)	Charles deVarennes	Paul Granholm
Michigan	(5)	Paul V. Howard	William Mackie
Minnesota	(5)	C. H. Wetter	R. Leland West
Mississippi	(2)	Andy W. Crawford	J. V. Duckworth
Missouri	(2)	Paul L. Spencer	Oren E. Ellis
Montana	(2)	A. F. Hayes	Kay H. Newhall
Nebraska	(3)	G. H. Leenerts	Carl E. Brillhart
Nevada	(1)	W. F. Fisher	J. B. Key
New Hampshire	(2)	Fred E. Allen	
New Jersey	(3)	Oscar Sussman	Lloyd Sanders
New Mexico	(2)	Tom Evans	
New York	(5)	Harry G. Hodges	C. H. Hoppenstedt
North Carolina	(3)	A. A. Husman	Martin P. Hines
North Dakota	(2)	D. F. Eveleth	D. A. Wire
Ohio	(5)	R. E. Rebrassier	A. G. Madden, Jr.
Oklahoma	(3)	Lewis H. Moe	Frank R. Knotts
Oregon	(3)	C. A. Bjork	J. L. Adams
Pennsylvania	(5)	Raymond C. Snyder	J. Robert Brown
Rhode Island	(1)	James W. Armstrong	George E. Dillenbeck
South Carolina	(2)	M. R. Blackstock	B. C. McLean
South Dakota	(2)	D. L. Cotton	M. C. Kromminga
Tennessee	(3)	Hugh L. Lamb	H. W. Nance
Texas	(5)	Paul B. Blunt	Richard D. Turk
Utah	(2)	F. J. Schoenfeld	
Vermont	(2)	Alan W. Wright	C. T. Whitney
Virginia	(3)	I. D. Wilson	O. F. Foley
Washington	(4)	John D. Stevens	George C. Mank
West Virginia	(2)	V. H. Miller	D. C. Masters
Wisconsin	(4)	E. A. Woelffer	D. E. Kelley
Wyoming	(2)	G. H. Good	Peter E. Madsen
Air Force	(2)	Marley C. Clark	Lloyd J. Neurauter
Army	(2)	Elmer W. Young	Russel McNellis
NAFV*	(2)	L. T. Hopkins	E. E. Saulmon
Canal Zone			
Hawaii	(1)	A. R. Glaisyer	Joseph M. Sample
Puerto Rico			
Alberta	(2)	J. R. Rattray	
British Columbia	(2)	Leslie T. Clarkson	D. A. Perry
Manitoba	(2)	Elmer Clark	W. G. Jones
New Brunswick	(1)	J. F. Frank	
Nova Scotia			
Ontario	(5)	Robert H. Wright	H. R. Potter
Quebec			
Saskatchewan	(2)	J. S. Fulton	E. L. Brown
Cuba			

*National Association of Federal Veterinarians.

Executive and Legislative Sessions

Hotel Cleveland

Tuesday, August 13

9:00 a.m. Board of Governors—*Room 9.*
2:00 p.m. Committee on Budget, first session—*Room 9.*
3:00 p.m. Executive Board Reference Committee A—*Room 5.*
Executive Board Reference Committee B—*Room 3.*
Executive Board Reference Committee C—*Room 1.*
7:00 p.m. Committee on Budget, second session—*Room 9.*

Wednesday, August 14

9:00 a.m. Executive Board, first session—*Room 9.*
2:00 p.m. Executive Board, second session—*Room 9.*
7:30 p.m. Executive Board, third session—*Room 9.*

Thursday, August 15

9:00 a.m. Executive Board, fourth session—*Room 9.*
2:00 p.m. Advisory Committee, House of Representatives—*Room 3.*

Friday, August 16

9:00 a.m. Advisory Committee, House of Representatives—*Room 3.*
1:30 p.m. House of Representatives, first session—*Ballroom.*

Saturday, August 17

9:00 a.m. House of Representatives, second session—*Ballroom.*
2:00 p.m. House of Representatives, third session—*Ballroom.*

Thursday, August 22

12:30 p.m. Executive Board, final session—*Room 5.*

The Cleveland Municipal Stadium—Home of the Cleveland Indians

Women's Auxiliary Business Sessions

Hotel Cleveland

Saturday, August 17

9:00 a.m. Budget Committee—*Room 3, Mezzanine.*
1:00 p.m. Executive Board, first session——*Room 3, Mezzanine.*

Sunday, August 18

9:00 a.m. Executive Board, second session—*Room 3, Mezzanine.*

Tuesday, August 20

9:00 a.m. House of Representatives to be followed by Annual Meeting (all interested women are invited)—*Ballroom.*
12:30 p.m. Auxiliary Public Relations Media Luncheon—*Rose Room.*
2:00 p.m. House of Representatives, second session (if necessary)—*Ballroom.*

Wednesday, August 21

9:30 a.m. Auxiliary Workers' Conference—*Terminal Room.*

Thursday, August 22

8:00 a.m. Executive Board, third session—*Room 3, Mezzanine.*

Message from the President of the Women's Auxiliary

This year we are celebrating the fortieth anniversary of the Women's Auxiliary to the American Veterinary Medical Association. Our total membership is nearly 6,000 and we have 71 affiliated state and regional groups.

Mrs. A. E. Coombs

The AVMA Auxiliary offers to every member and individual auxiliary an opportunity to participate nation-wide in its programs which have been planned to achieve some victory for the entire animal kingdom. It is my privilege to extend to all women a cordial invitation to attend Auxiliary meetings and social functions at this convention.

At the midyear meeting of the executive board, held in Chicago last April, it was decided to hold the annual business meeting on Tuesday immediately following the meeting of the Auxiliary house of representatives, and to have all reports mimeographed rather than given orally. This arrangement will afford more time for the Auxiliary workshop scheduled for Wednesday morning. It is a trial arrangement and your comments will be appreciated.

I am looking forward to meeting old friends and making new ones. I wish that every member could attend at least one national convention and hear the stimulating reports. It makes one glad to be a part of such an organization. The enthusiasm is something that remains with us.

Plan to meet us in Cleveland and to take back to your fellow auxiliary members and friends the inspiration of a great experience.

s/(Mrs. Alfred E.) Marie O. Coombs, *President.*

Women's Auxiliary Officers

President—Mrs. A. E. Coombs, Skowhegan, Maine.
President-Elect—Mrs. L. H. Moe, Stillwater, Okla.
First Vice-President—Mrs. E. A. Woelffer, Oconomowoc, Wis.
Second Vice-President—Mrs. E. E. Leasure, Manhattan, Kan.
Third Vice-President—Mrs. J. I. Cornwell, Asheville, N. Car.
Secretary—Mrs. F. R. Booth, Elkhart, Ind.
Membership Secretary—Mrs. C. M. Rodgers, Blandinsville, Ill.
Treasurer—Mrs. J. D. Stevens, Sequim, Wash.
Recorder—Mrs. T. S. Maddox, Greenville, Ky.
Retiring President—Mrs. E. N. Moore, Nagpur, India.

Message from the Co-General Chairmen, Committee on Local Arrangements

On behalf of the Local Committee, it is our pleasure and privilege to invite you to "The Best Location in the Nation" for the Ninety-Fourth Annual AVMA Meeting.

Cleveland last served as host city in 1905. Since that time, the city has developed into an industrial, cultural, and educational giant. However, in spite of this development, Cleveland maintains its atmosphere of home-town folk—so typical of the Buckeye State.

We want you to plan on bringing your entire family, regardless of age, to enjoy our hospitality.

The downtown hotels are located within walking distance of Public Auditorium. Suburban hotels and motels are in abundance. Transportation facilities are excellent.

We promise you a well-planned scientific program and entertainment of the highest caliber. There are over 1,000 veterinarians in the State of Ohio and they are helping our Local Committee stage what we are confident will be the biggest and the best AVMA Convention ever!

Be seeing you—August 19.

s/H. B. Roberts and H. E. Jensen, *Co-General Chairmen, Committee on Local Arrangements.*

Dr. H. B. Roberts, Co-General Chairman

Dr. H. E. Jensen, Co-General Chairman

Dr. R. W. Grundish, General Secretary (left), and Drs. W. R. Krill and R. E. Rebrassier, Ex Officio Members

Chairmen Local Subcommittees *Cleveland Meeting*

Registration and Information

Dr. W. E. Wendt

Hospitality and Reception

Dr. D. A. Rickards

Hotel Housing, Garages, Airports, and Transportation

Dr. J. W. Ralston

Television

Dr. F. A. Coy

Golf Tournament

Dr. F. Gruesser

Women's Activities

Chairman

Mrs. H. E. Jensen

Vice-Chairman

Mrs. H. B. Roberts

Television

Dr. V. G. Crago

Luncheon

Mrs. J. Lyman, Jr.

Tea

Mrs. D. A. Rickards

Teenagers

Mrs. F. A. Coy

Subteenagers

Mrs. R. I. Fisher

Entertainment

Dr. R. D. Larcey

Alumni Dinners

Dr. R. W. Stockstill

Publicity and Public Relations

Dr. C. C. Wagner

Exhibits

Dr. A. J. Sirilo

Exhibits

Dr. W. A. James

Committee on Local Arrangements
Ninety-Fourth Annual Meeting

General Officers

Dr. H. B. Roberts, *Co-General Chairman*
Dr. H. E. Jensen, *Co-General Chairman*
Dr. R. W. Grundish, *General Secretary*
Dr. W. R. Krill, *Ex Officio Member*
Dr. R. E. Rebrassier, *Ex Officio Member*

Committees

Alumni Dinners

Dr. R. S. Stockstill, *Chairman*
Dr. W. H. Crago, *Co-Vice Chairman*
Mrs. B. K. Brown, *Co-Vice Chairman*
Dr. and Mrs. D. H. Fennoy
Dr. and Mrs. K. K. Goekjian
Dr. and Mrs. F. R. Koutz
Dr. and Mrs. A. Steinmetz
Dr. and Mrs. D. C. Markham
Dr. and Mrs. R. S. Lambert
Dr. and Mrs. C. J. Hook
Dr. and Mrs. T. E. Murchison
Dr. and Mrs. W. G. Venzke

Entertainment

Dr. R. D. Larcey, *Chairman*
Mrs. R. W. Stockstill, *Vice-Chairman*
Dr. and Mrs. B. M. Schrank
Dr. and Mrs. D. C. Stearns
Dr. and Mrs. A. J. Arthur
Mrs. R. L. Rudy
Dr. and Mrs. C. W. Montgomery
Dr. and Mrs. R. W. Sass
Dr. and Mrs. E. P. Barnes
Dr. and Mrs. D. O. Jones
Mrs. R. D. Larcey

Television

Dr. F. A. Coy, *Co-Chairman*
Dr. V. G. Crago, *Co-Chairman*
Dr. L. E. Green
Dr. J. A. Solomon
Dr. M. L. Scott
Dr. J. F. Robertson
Dr. N. B. King
Dr. R. L. Rudy
Dr. P. J. Clemens
Dr. V. L. Tharp
Dr. R. L. Bay
Dr. W. O. Keefer
Dr. W. Amling
Dr. D. L. Thomas, Jr.
Dr. R. D. Little
Dr. D. A. Weibel
Dr. A. G. Madden, Jr.
Dr. C. F. Jones
Dr. W. F. Winkler
Dr. R. B. Lind
Dr. C. J. Hook
Dr. T. W. Gigliotti
Dr. W. G. Loufman
Dr. A. C. Priestley
Dr. J. R. Peters

Exhibits

Dr. A. J. Sirilo, *Co-Chairman*
Dr. W. A. James, *Co-Chairman*
Dr. H. P. Noonan
Dr. J. W. Jackman
Dr. L. K. Firth
Dr. N. S. Craver
Dr. R. M. Ware
Dr. R. M. Engard

Golf

Dr. Franklin Gruesser, *Chairman*
Mrs. J. F. Robertson, *Vice-Chairman*
Mrs. Franklin Gruesser
Dr. and Mrs. M. A. Custer
Dr. and Mrs. P. M. Washburn
Dr. and Mrs. F. E. Cole
Dr. and Mrs. G. C. Lewis
Dr. and Mrs. F. J. Kingma
Dr. and Mrs. E. Donovan

Hospitality and Reception

Dr. D. A. Rickards, *Chairman*
Mrs. D. A. Rickards, *Vice-Chairman*
Dr. and Mrs. J. L. Boydston
Dr. and Mrs. W. H. Pavey
Dr. and Mrs. C. D. Barrett
Dr. and Mrs. J. A. McCoy
Dr. and Mrs. J. R. Hay
Dr. and Mrs. H. G. Geyer
Mrs. W. R. Krill
Mrs. R. E. Rebrassier
Dr. and Mrs. C. R. Cole
Mrs. C. W. Cromley
Dr. and Mrs. L. H. Bremer
Dr. and Mrs. H. T. Deacon
Dr. and Mrs. B. H. Edgington
Dr. and Mrs. J. D. Grossman
Dr. and Mrs. L. W. Goss
Dr. and Mrs. W. F. Guard
Dr. B. K. Brown
Dr. and Mrs. J. C. Taylor
Dr. and Mrs. M. J. Romine
Dr. and Mrs. K. K. Burriss
Dr. and Mrs. M. L. Willen

Hotel Housing, Transportation, Garages, and Airports

Dr. J. W. Ralston, *Chairman*
Mrs. R. E. Jacobs, *Vice-Chairman*
Dr. and Mrs. J. V. Burrell
Dr. G. M. McCloud
Dr. and Mrs. G. J. Miedema
Dr. and Mrs. F. A. Reed
Dr. and Mrs. W. W. Haffenbrack
Dr. and Mrs. W. S. Hynes
Dr. and Mrs. C. W. Richert

Meeting Rooms and Equipment

Dr. R. E. Jacobs, *Chairman*
Dr. W. K. Raub, *Vice-Chairman*
Dr. Ralph Evans
Dr. C. D. Diesem
Dr. Roger Smith
Dr. Robert Wheteus
Dr. Earl Simonson
Dr. Luther Miller
Dr. J. H. Knapp
Dr. J. B. Wenger
Dr. R. L. McMahan
Dr. J. L. Stansbury
Dr. W. R. Henson
Dr. R. D. Daniels

Publicity and Public Relations

Dr. C. C. Wagner, *Chairman*
Mrs. L. R. Richardson, *Co-Vice Chairman*
Mrs. W. K. Raub, *Co-Vice Chairman*
Dr. and Mrs. R. L. Knudson
Dr. and Mrs. Eugene Kandel
Dr. R. E. Rebrassier
Dr. John Lyman
Dr. and Mrs. William Ingalls
Dr. and Mrs. W. C. Piper, Jr.

Registration and Information

Dr. W. Wendt, *Chairman*
Mrs. R. W. Grundish, *Vice-Chairman*
Dr. and Mrs. C. S. Alvanos
Dr. and Mrs. R. P. Clemens
Dr. and Mrs. R. J. Elsner
Dr. L. M. Dennis
Dr. and Mrs. L. F. Hermann
Dr. and Mrs. Arthur Kovats

Dr. and Mrs. E. W. Immke
Dr. and Mrs. P. J. Henley
Dr. and Mrs. C. W. Fox
Dr. and Mrs. C. H. Forthofer
Dr. and Mrs. H. S. Bernstein
Dr. and Mrs. N. R. Berthold
Mrs. K. K. Goekjian
Dr. and Mrs. E. C. Krantz
Dr. and Mrs. M. Beldon
Dr. and Mrs. D. F. Blackford
Dr. and Mrs. J. E. Danis

Women's Activities

Mrs. H. E. Jensen, *Chairman*
Mrs. H. B. Roberts, *Vice-Chairman*
Mrs. W. W. Hafenbrack, *Secretary*

Tea

Mrs. D. A. Rickards, *Chairman*
Mrs. B. K. Brown
Mrs. W. H. Crago
Mrs. C. D. Diesem
Mrs. M. E. Doerr
Mrs. Carl Fosnaugh
Mrs. C. W. Fox
Mrs. J. R. Hay
Mrs. J. H. Helwig
Mrs. F. A. Koutz
Mrs. A. G. Madden, Jr.
Mrs. W. H. Pavey
Mrs. W. K. Raub
Mrs. P. A. Soldner
Mrs. H. S. Starr

Luncheon

Mrs. J. J. Lyman, Jr., *Chairman*
Mrs. A. J. Arthur
Mrs. N. S. Craver
Mrs. M. A. Custer
Mrs. M. E. Epperson
Mrs. C. J. Griffin
Mrs. J. H. Knapp
Mrs. W. R. Krill
Mrs. W. G. Laufman
Mrs. C. W. Montgomery
Mrs. W. C. Piper
Mrs. R. E. Rebrassier
Mrs. L. R. Richardson
Mrs. Adolph Steinmetz
Mrs. A. R. Theobald

Teenagers

Mrs. F. A. Coy, *Chairman*
Mrs. R. F. Baker
Mrs. Howard Barth
Mrs. H. S. Bernstein
Mrs. K. S. Grady
Mrs. R. W. Grossman
Mrs. B. S. Henson
Mrs. W. R. Henson
Mrs. H. L. Hubbard
Mrs. D. E. James
Mrs. J. R. Peters
Mrs. S. W. Stout
Mrs. S. I. Tschantz
Mrs. R. M. Ware
Mrs. J. B. Wenger

Subteenagers

Mrs. R. I. Fisher, *Chairman*
Mrs. N. D. Abbott
Mrs. D. B. Cameron
Mrs. J. C. Curtis, Jr.
Mrs. J. R. Eggleston
Mrs. J. E. Fox
Mrs. W. S. Hynes
Mrs. E. C. Kandel
Mrs. Robert Lambert
Mrs. W. D. McClaskey
Mrs. C. W. Miller
Mrs. Robert Morgan
Mrs. D. E. Mossbarger
Mrs. J. W. Ralston
Mrs. R. A. Rice
Mrs. D. L. Thomas, Jr.
Mrs. D. A. Weibel

In the center of Public Square is the Soldiers' and Sailors' Monument, which was erected in memory of Cleveland's Civil War veterans.

Message from the Chairman of the Committee on Women's Activities

Cleveland, Ohio's gateway to the world, joins with the rest of Ohio in welcoming you to what we hope will be a record-breaking convention in registration and in fun for the whole family. With the completion of the St. Lawrence Seaway, there will be many foreign boats in the harbor. Excursions are possible down the Cuyahoga River to see the industrial operations, e.g., ore being unloaded. For the more romantic, there are lake excursions on a luxury liner or on smaller boats.

Happily for the baseball fans, the Indians will be in town on Tuesday night. Likewise, on Tuesday night, Musicarnival, a theater-in-the-round which has gained a national reputation as the finest theater of its kind in the country, will have an outstanding musical production of "The Song of Norway." Feeling that this is an opportunity of which many will want to take advantage, we have arranged for the entire theater and have scheduled buses to pick up the conventioneers at the principal downtown hotels. Be sure to send in your reservation for Musicarnival along with your hotel reservation so that you do not miss this outstanding event.

Our chairman of subteenagers' activities, Mrs. R. I. Fisher, can arrange for all-day nursery school care for children between 3 and 6 years of age (lunch included), if there is sufficient desire expressed. We are arranging for this on Wednesday. For those who need baby-sitting services, names of baby sitters will be furnished. Among the many events being planned for the children are a trip to the zoo, a rapid transit ride followed by an ice cream party at a playground, a TV show, a bakery tour, and a boat trip. For the teenagers, Mrs. Frank Coy has scheduled a Splash Party, a tour of the Plain Dealer, a boat trip, and a Coke Dance.

To aid us in planning, we are asking that you fill out and send in the blank concerning your family's interests. Be sure to pick up your tickets for the various tours on Monday when you register. As you look over the schedule of events, you will see that we tried to arrange for the children to be busy so that mother can attend the tea and luncheon. We even arranged for the children to meet at the Carter Hotel at 12:15 on Wednesday, since the luncheon will be held at the Carter at 12:30!

It has been over 50 years since the AVMA has been in Cleveland; we are happy that we again have the privilege of entertaining you. With the help of our state auxiliary and of the student auxiliaries all over the country, we believe that we are planning a convention which will be exciting and memorable.

We have ordered cool weather and coats are usually needed for evenings. Of course, judging from the past AVMA record-breaking weather, it might be hot!

s/Mrs. H. E. Jensen, *General Chairman, Committee on Women's Activities.*

(Tear off)

To: Women attending convention:

To help us give you better service, please fill out and send this questionnaire to: Dr. H. E. Jensen, 2168 S. Green Road, Cleveland 21, Ohio:

We will want:

No. ——— Musicarnival Tickets (including transportation)—Tuesday night, August 20

No. ——— Baseball Tickets (Cleveland Indians versus Boston Red Sox)—Tuesday night, August 20

Our party will consist of:

——— children (3 to 7 yr.)
No.

——— children (8 to 12 yr.)
No.

——— children (teenagers)
No.

Activities in which they will participate:

	No.	Ages
Hough Bakery Tour	———	———
Zoo Trip	———	———
Splash Party	———	———
Nursery School	———	———
Boat Trip	———	———
Television Show	———	———

Please list below the other tours, described on page 11, in which you plan to participate:

(Do not send remittance at this time.)

Women's Social Program

Sunday, August 18

10:00 a.m. Registration Opens—*Auditorium.*

Monday, August 19

8:30 a.m. Registration—*Auditorium.*
8:30 a.m. Visit Commercial and Scientific Exhibits—*Auditorium.*
9:00 a.m. Opening Session—*Music Hall, Auditorium.*
3:00 p.m. to 5:00 p.m. Tea and Reception—*Carter Hotel.*

Tuesday, August 20

7:30 p.m. Musicarnival or Baseball Game.

Wednesday, August 21

1:00 p.m. Luncheon and Style Show—*Carter Hotel.*
6:30 p.m. Alumni Dinners—*See Bulletin Board*
8:30 p.m. President's Reception and Dance (Installation of AVMA and Women's Auxiliary Officers)—*Main Arena, Auditorium.*

The following tours will be offered on Tuesday, Wednesday, and Thursday, August 19, 20, 21:

1) Hough Bakery.
2) Health Museum and Thompson Museum.
3) Bobbie Brooks (dress manufacturer).
4) East Ohio Gas Company.
5) Grey Line Bus.
6) Republic Steel Corporation.
7) Cuyahoga Boat Trip.
8) Western Reserve Historical Museum.
9) Natural History Museum.

Teenagers' Program

Monday, August 19

1:30 p.m. Splash Party.

Tuesday, August 20

9:30 a.m. Western Reserve Historical Society or Plain Dealer Tour.
12:15 p.m. Cuyahoga Boat Trip and Box Lunch.

Wednesday, August 21

9:30 a.m. Western Reserve Historical Society or Plain Dealer Tour.
2:00 p.m. Coke Dance.

Thursday, August 22

9:30 a.m. Health Museum and Thompson Museum or Sealtest Ice Cream Company Tour.

Subteenagers' Program

(Ages—8 to 12 Years)

Monday, August 19

1:00 p.m. Hough Bakery Tour.

Tuesday, August 20

10:00 a.m. Zoo Trip and Box Lunch.

Wednesday, August 21

10:00 a.m. Terminal Tower Coca Cola Plant.
12:15 p.m. Boat Trip and Box Lunch.

• • •

(Ages—3 to 7 Years)

Monday, August 19

2:30 p.m. Rapid Transit Ride and Ice Cream Party at Playground.

Tuesday, August 20

10:00 a.m. Zoo Trip and Box Lunch.

Wednesday, August 21

8:45 a.m. Television Show.
9:30 a.m. Nursery School.

Thursday, August 22

8:45 a.m. Television Show.

Group Conferences and Meetings

(Meetings in Cleveland Hotel unless otherwise indicated)

Saturday, August 17

All Day—American Association of Veterinary Parasitologists—*Sisson Hall, Ohio State University Campus.*

Sunday, August 18

All Day—Student Chapter Delegates Open House—*Ohio State University.*
9:00 a.m. Preconvention Conference on Professional and Public Relations—*Ballroom.*
12:30 p.m. Preconvention Conference Luncheon—*Ballroom.*
1:30 p.m. Association of Deans of American Colleges of Veterinary Medicine—*Private Dining Room 34.*
1:30 p.m. Association of State Public Health Veterinarians—*Terminal Room.*
6:00 p.m. American Board of Laboratory Animal Medicine—*Private Dining Room 31.*
6:00 p.m. American Veterinary Exhibitors Association, Inc.—*Empire Room.*
7:30 p.m. Diagnostic Laboratory Workers—*Private Dining Room 98.*
8:00 p.m. Public Health Veterinarians—*Terminal Room.*

Monday, August 19

3:30 p.m. Women's Veterinary Medical Association—*Private Dining Room 24.*
6:30 p.m. National Association of Extension Veterinarians—*Private Dining Room 31.*
6:30 p.m. Delegates—Student Chapters and Auxiliaries—*Empire Room.*
7:00 p.m. American Association of Equine Practitioners—*Terminal Room.*
7:00 p.m. Editors—*Whitehall Room.*
7:00 p.m. Industrial Veterinarians Association—*Mezzanine Rooms 1, 3.*
7:00 p.m. American College of Veterinary Pathologists—*Private Dining Room 98.*
7:30 p.m. American Association of Veterinary Nutritionists—*Private Dining Rooms 27 and 29.*
7:30 p.m. American Board of Veterinary Public Health—*Private Dining Rooms 30 and 32.*
7:30 p.m. Zoo Veterinarians—*Private Dining Rooms 26 and 28.*
7:30 p.m. National Assembly of Chief Livestock Sanitary Officials—*Private Dining Room 34.*
7:30 p.m. National Association of Federal Veterinarians—*Rose Room.*
8:00 p.m. American Boards of Veterinary Medical Examiners—*Private Dining Room 24.*

Tuesday, August 20

8:00 a.m. U.S. Livestock Sanitary Association Advisory Committee to ARS—*Private Dining Room 24.*
12:00 noon American Association of Veterinary Anatomists—*Private Dining Room 36.*
4:30 p.m. American Association of Veterinary Physiologists and Pharmacologists—*Rose Room.*
4:30 p.m. American Association of Avian Pathologists—*Private Dining Room 31.*
4:30 p.m. Fertility Conference—*Terminal Room.*
4:30 p.m. National Board of Veterinary Medical Examiners—*Private Dining Room 34.*

Wednesday, August 21

9:00 a.m. Army and Air Force Veterinary Officers—*Rose Room.*
12:00 noon American Animal Hospital Association—*Empire Room.*
12:15 p.m. Alpha Psi Fraternity—*Statler Hotel.*
1:00 p.m. State and Federal Veterinarians—*Whitehall Room.*
2:00 p.m. American Veterinary Radiology Society—*Private Dining Rooms 32 and 34.*

Preconvention Conference

on

Professional and Public Relations

Ballroom, Hotel Cleveland

Sunday, August 18

Chairman—H. E. Kingman, Jr., Assistant Executive Secretary, AVMA.

9:30 a.m. Coffee and Donuts (Compliments of the AVMA).

10:00 a.m. Internal and External Public Relations.
Wayne O. Kester, President, AVMA.
Discussion.

10:30 a.m. The AVMA Public Relations Package.
Brian Forster, AVMA Staff.
Discussion.

11:00 a.m. Survey of Constituent Associations' Communication Problems.
C. C. Rife, Secretary, Georgia VMA, Atlanta, Ga.

11:15 a.m. Tape Recordings—A Practical Means of Communication.
Oliver D. Grace, Lincoln, Neb.
Discussion.

11:30 a.m. Ethics—An Integral Part of Internal Public Relations.
F. R. Booth, Chairman, AVMA Committee on Ethics, Elkhart, Ind.
Discussion.

12:30 p.m. Luncheon—Compliments of the AVMA.
Public Relations and Professional Liability.
Edwin J. Holman, Executive Secretary, Judicial Council, A.M.A.

2:00 p.m. Developing Public Relations Awareness Among Veterinary Students.
Mark Allam, Dean, School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pa.
Discussion.

2:30 p.m. The Role of the State Board of Examiners in Professional and Public Relations.
C. W. Bower, Chairman, American Boards of Veterinary Medical Examiners, Topeka, Kan.
Discussion.

3:00 p.m. Utilizing the Women's Auxiliary to Promote Professional and Public Relations.
James I. Cornwell, Asheville, N. Car.
Discussion.

3:30 p.m. Selling the Benefits of Association Membership.
R. G. Rongren, AVMA Staff.
Discussion.

4:00 p.m. Summary and Conclusion.
W. W. Armistead, President-Elect, AVMA.
Adjournment.

Agenda—House of Representatives

Ballroom, Hotel Cleveland

First Session—1:30 p.m., Friday, August 16.
Second Session—9:00 a.m., Saturday, August 17.
Third Session—2:00 p.m., Saturday, August 17.

Order of Business*

Presiding: President-Elect W. W. Armistead.

Call to Order.

Roll Call.

1) Presentation of Minutes, 1956 Session.
2) Remarks—President W. O. Kester.
3) Report of Treasurer—H. E. Kingman, Jr.
4) Proposals for Honorary Membership.

REPORTS OF HEADQUARTERS STAFF

5) Administrative—J. G. Hardenbergh.
6) Membership Status—J. G. Hardenbergh.
7) Publications—W. A. Aitken; Helen S. Bayless.
8) Membership Services—R. G. Rongren.
9) Professional Relations—H. E. Kingman, Jr.
10) Public Relations and Information—B. M. Forster.
11) Legislative and Other Washington Office Activities—J. A. McCallam.

REPORT OF EXECUTIVE BOARD

T. Lloyd Jones, Chairman

12) Board of Trustees, Research Fund.
13) Board of Trustees, Group Insurance Trust.
14) Appointments to Research Council.
15) Appointments to Council on Education.
16) Budget.
17) Membership Matters.
18) Action on Recommendations in President Cross' Address (1956).
19) Results of Executive Board Elections in 1957.
20) Approval of American Board of Laboratory Animal Medicine as a Specialty Board.
21) Items from Executive Board Sessions at this Meeting.

---

*Note.—Reports of the various committees and representatives which have been furnished in preprint form for advance study by delegates will not be read before the House. However, chairmen or designated members of committees are invited to be present, at the time their reports are acted upon, to answer any questions that may arise from the floor.

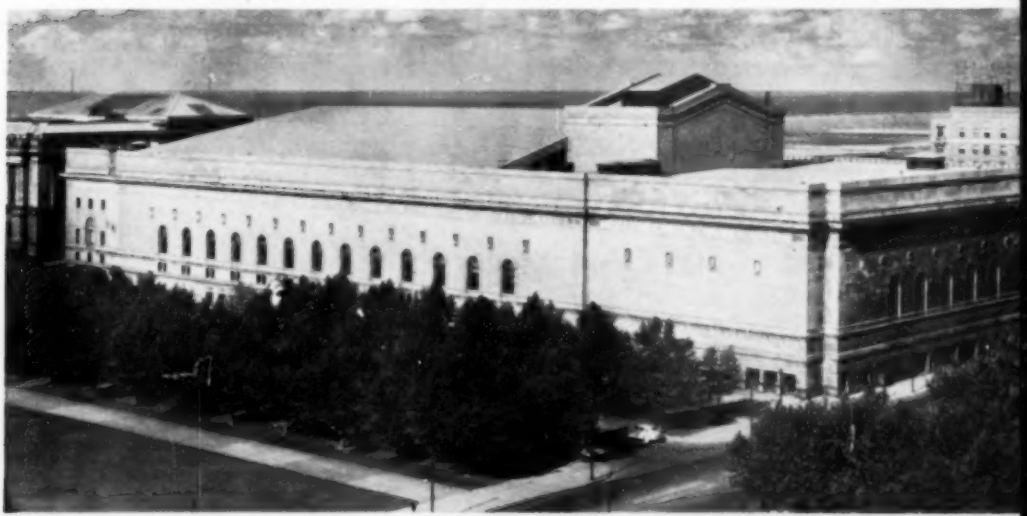
REPORT OF HOUSE ADVISORY COMMITTEE

22) Resolutions.
23) Recommendations on Reports of Standing Committees.
24) Recommendations on Reports of Special Committees.
25) Recommendations on Reports of Representatives.
26) Items Received from Executive Board.
27) Proposed Revision of Constitution and Bylaws.
28) Action on Proposals for Honorary Membership.
29) Unfinished Business.
30) New Business:

a) Election of House Advisory Committee Members.
b) Election of House Member(s) to National Board of Veterinary Medical Examiners.
c) Election of House Member to Board of Trustees, Group Insurance Trust.
d) Invitations for Annual Convention.
e) Other New Business.

Adjournment.

The Cleveland Auditorium Where the Ninety-Fourth Annual Meeting Will Be Held



General Convention Entertainment—Cleveland

Monday, August 19, 2:00 p.m.—AVMA Golf Tournament, Columbia Hills Country Club.

Tuesday, August 20, 7:30 p.m.—Musicarnival—"Song of Norway."

Tuesday, August 20, 7:30 p.m.—Baseball Game—Cleveland Indians versus Boston Red Sox.

Wednesday, August 21, 6:30 p.m.—Alumni Dinners.

Wednesday, August 21, 8:30 p.m.—President's Reception and Dance (Installation of AVMA and Women's Auxiliary Officers)—Main Arena, Auditorium.

Golf at Cleveland

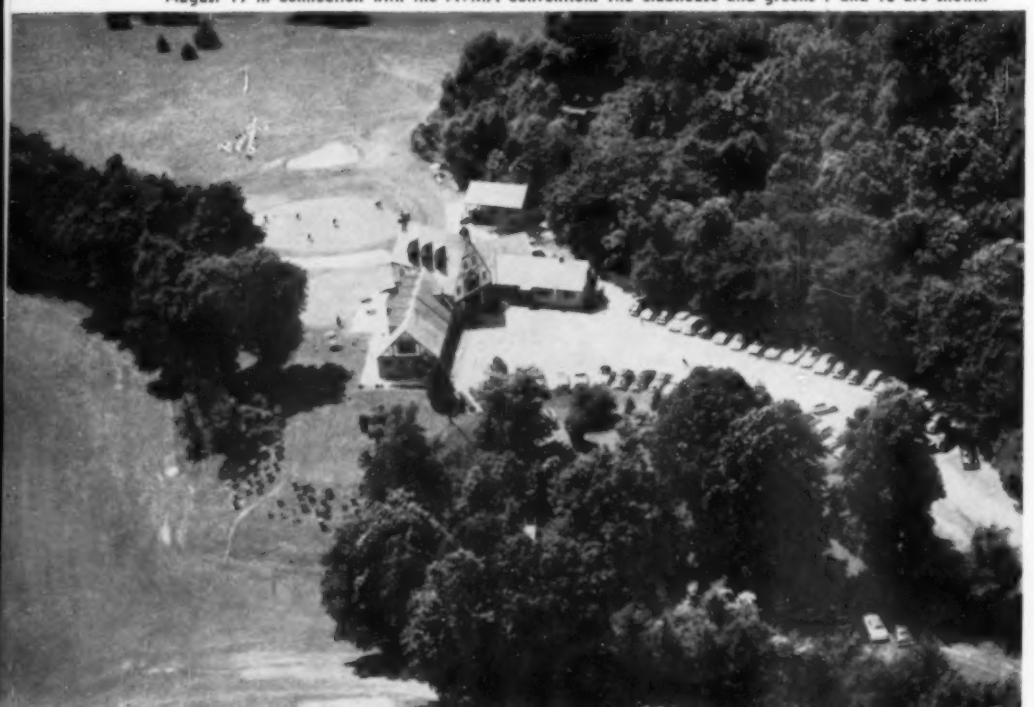
Par busters, ladies, fun lovers, and first timers! There's a prize for you and a day to remember at Cleveland.

Columbia Hills Country Club opens its doors to the AVMA Golf Tournament on Monday, Aug. 19, 1957. You will tee off about 2:00 p.m., tour the beautiful course without wait or delay, and finish the day with a delicious dinner at the Club. Bus service will be provided to and from the golf course. Club rental is available if desired. There will be prizes for the lucky, the lady, the low-scorer, and the low-handicapper.

In addition to the individual competition, two-man teams entered by the various state and provincial associations will compete for the trophy awarded annually by the AVMA.

Don't miss this day of fun. Start this year's convention off right by registering for the golf tournament when you register for the convention. Entry fee of $10 includes bus service, golf, and dinner.

Aerial view of Columbia Hills Country Club, site of AVMA golf tournament which will be held August 19 in connection with the AVMA convention. The clubhouse and greens 9 and 18 are shown.



Opening Session

Music Hall—Auditorium

Monday, August 19, 9:00 a.m.

Music.

9:30 a.m.

Call to Order—President W. O. Kester.

Invocation—The Reverend Howard J. Brown, D.D., Church of the Saviour, Cleveland Heights.

The National Anthem.

Address of Welcome—The Honorable C. William O'Neill, Governor of the State of Ohio.

Greetings from Women's Auxiliary—Mrs. A. E. Coombs, President, Skowhegan, Maine.

Address—Brig. Gen. W. O. Kester, President.

Announcements—Dr. H. E. Jensen, Co-General Chairman, Committee on Local Arrangements.

Introduction of Guests.

Presentation of Awards:

By Dr. W. A. Young, Chairman, Special Committee on Humane Act Award: 1957 Humane Act Award.

By Dr. Robert Getty, Chairman, Research Council: Practitioner Research Award.

By Brig. Gen. W. O. Kester, Chairman *ex officio*, Committee on Awards:

Twelfth International Veterinary Congress Prize.

Borden Award for 1957.

AVMA Award.

Gaines Award.

Certificates of Merit.

Address—"Unanswered Public Health Problems"—Leroy E. Burney, Surgeon General, U.S. Public Health Service, Washington, D.C.

*Nomination of Officers.**

*If a ballot election is required (due to having more than one nomination for the respective offices), polls will be set up in the executive secretary's office in the Auditorium on Tuesday, October 16.

Officers to be elected at Cleveland are: president-elect, five vice-presidents, and treasurer. There will be joint installation ceremonies for AVMA and Auxiliary officers at the President's Reception and Dance, Wednesday, August 21.

• • •

Closing Session

Music Hall—Auditorium

Thursday, August 22, 12:00 noon

Closing Remarks—Incoming President W. W. Armistead.

Adjournment.

Section Officers—Cleveland Session

Section on General Practice

Rolland Anderson, Elkhorn, Wis., Chairman

C. W. Cromley, Ashville, Ohio, Secretary

Section on Research

R. A. Packer, Ames, Iowa, Chairman

W. D. Pounden, Wooster, Ohio, Secretary

Section on Small Animals

K. W. Smith, Sioux City, Iowa, Chairman

R. J. Beamer, College Station, Texas, Secretary

Section Officers—Cleveland Session

Section on Poultry

L. C. Grumbles, College Station, Texas, Chairman

P. P. Levine, Ithaca, N.Y., Secretary

Section on Surgery and Obstetrics

F. C. Neal, College Station, Texas, Chairman

W. F. Riley, Jr., East Lansing, Mich., Secretary

Section on Public Health

J. H. Helwig, Columbus, Ohio, Chairman

N. G. MacEachern, Maxwell Air Force Base, Ala., Secretary

Section on General Practice

Monday, August 19, 1:25 p.m.

Music Hall, Auditorium

Rolland Anderson, *Chairman* Curtis W. Cromley, *Secretary*

First Session

1:25 Opening Remarks by the Chairman.

1:30 (1) Swine Diseases (Illustrated).
R. D. Little, Jeffersonville, Ohio.

2:00 (2) A Comparison of the Economics of Large and Small Animal Practice as Conducted in a Partnership.
R. E. McKinley, Erie, Pa.

2:30 (3) Television—Restraint and Trimming of the Bovine Foot.
R. E. Tully, Elkhorn, Wis.

2:45 (4) Leptospirosis Vaccination Studies in Cattle, Swine, Sheep, and Horses.
S. F. Scheidy, Philadelphia, Pa.

3:05 (5) Techniques of Preparing Frozen Semen.
Richard Kellogg, Columbus, Ohio.

3:35 Appointment of Nominating Committee.

3:40 (6) Television (jointly with Section on Research)—Immobilizing Darts for Capturing Wild Animals.
F. A. Hayes, J. A. Crockford, and S. C. Feurt, Athens, Ga.
Narrator—J. H. Jenkins, Athens, Ga.

4:00 (7) Downer Cow Syndrome.
J. H. Rosenberger, Clinton, Wis.

4:20 (8) Television—An Effective Mastitis Control Program Provided for Veterinarians and Dairymen in New York State—New York State Mastitis Control Program.
Demonstrators—W. H. Pengally, Churchville, N.Y.; G. E. Morse and R. S. Guthrie, Ithaca, N.Y.
Narrator—H. G. Hodges, Ithaca, N.Y.

Adjournment at 4:45 p.m.

Section on Research

Monday, August 19, 1:30 p.m.

Ballroom, Auditorium

R. A. Packer, *Chairman* William D. Pounden, *Secretary*

First Session

1:30 (9) The Cultivation of Animal Viruses in Leukocytes.
H. W. Dunne, A. J. Luedke, J. F. Hokanson, and C. V. Reich, University Park, Pa.

1:50 (10) The Pathology of Thiamine, Pantothenic Acid, and Pyridoxine Deficiencies in the Baby Pig.
D. A. Schmidt, E. R. Miller, J. A. Hoefer, R. W. Luecke, East Lansing, Mich., and S. C. Strothers, Winnipeg, Man.

2:10 (11) Television—Detection of Viral Antigens by the Resin-Agglutination Test.
Diego Segre, Madison, Wis.

2:30 (12) Experimental Porcine Leptospirosis.

I. The Carrier State.
E. V. Morse, D. C. Bauer, R. F. Langham, R. W. Lang, and D. E. Ullrey, East Lansing, Mich.

II. Histopathology.
R. F. Langham, E. V. Morse, and R. L. Morter, East Lansing, Mich.

2:50 (13) Luminal Fluids of Bovine Female Genitalia.
Durward Olds, Lexington, Ky., and N. L. VanDemark, Urbana, Ill.

3:15 (14) Studies on the Production and Treatment of Experimental Ketosis of Ruminants.
G. D. Goetsch, Lafayette, Ind., and W. R. Pritchard, Gainesville, Fla.

3:35 Appointment of Nominating Committee.

3:40 (6) Television (jointly with Section on General Practice)—Immobilizing Darts for Capturing Wild Animals.
F. A. Hayes, J. A. Crockford, and S. D. Feurt, Athens, Ga. Narrator—J. H. Jenkins, Athens, Ga.

4:00 (15) Ovine Coccidiosis—Incidence, Endotoxin, and Treatment.
R. F. Shumard, Fargo, N. Dak.

4:20 (16) Vasoconstrictive Action of Staphylococcic *Alpha* Toxin.
R. W. Brown and R. K. Scherer, Beltsville, Md.

4:40 (17) Film Strip—Cinefluorographic Studies of the Ruminant Stomach and Eructation.
R. W. Dougherty, R. E. Habel, and H. E. Bond, Ithaca, N.Y.

Adjournment at 4:50 p.m.

Section on General Practice

Tuesday, August 20, 8:40 a.m.

Music Hall, Auditorium

Rolland Anderson, *Chairman* Curtis W. Cromley, *Secretary*

Second Session

8:40 (18) Experiences in California with the Whey Test for Brucellosis.
H. S. Cameron, Davis, Calif.

9:00 (19) Recent Advances with Diagnostic Techniques for Equine Infectious Anemia.
J. O. Knowles, M. B. Teigland, and V. R. Saurino, Miami, Fla.

9:20 (20) Nutrition—A Roadblock or an Opportunity?
R. R. Spitzer, Burlington, Wis.

9:40 (21) A New Drug for the Oral or Subcutaneous Treatment of Lungworm in Animals.
J. K. Walley, Wilmslow, Cheshire, England.

10:00 (22) Television—Diagnostic Aids in the Practice of Veterinary Medicine.
H. H. Berrier, Columbia, Mo.

10:25 (23) Scrapie in Sheep.
A. L. Delez, D. P. Gustafson, Lafayette, Ind., and C. N. Luttrell, Baltimore, Md.

10:45 (24) Precautions Taken to Prevent the Introduction of Foreign Animal Diseases.
F. L. Herchenroeder, Fort Worth, Texas.

11:05 Election of Section Officers.

11:10 (25) Television (jointly with Section on Research)—Cardiac Resuscitation in the Dog.
Narrator—C. R. Smith, Columbus, Ohio.
Demonstrators—R. W. Redding and R. L. Rudy, Columbus, Ohio.

11:30 (26) Problems in Canine Distemper Immunization.
George Eberhart, Manhattan, Kan.

Adjournment at 12:00 noon.

Section on Research

Tuesday, August 20, 8:25 a.m.

Ballroom, Auditorium

R. A. Packer, *Chairman* William D. Pounden, *Secretary*

Second Session

8:25 (27) Motion Picture—Stress and the Adaptation Syndrome.
Pfizer Laboratories in collaboration with Hans Selye, M.D., University of Montreal.

9:00 (28) Pulmonary Adenomatosis in Cattle.
V. A. Seaton, Ames, Iowa.

9:20 (29) Lesions of Foot-and-Mouth Disease (Gross and Microscopic in a Number of Animal Species).
J. J. Callis, H. R. Seibold, and G. C. Poppensiek, Greenport, N.Y.

9:40 (30) Television—The Assay of Foot-and-Mouth Disease Virus by the Plaque Method (Illustrated).
W. R. Hess, R. E. Patty, J. J. Callis, and H. L. Bachrach, Greenport, N.Y.

10:00 (31) Experimental Production of Dissecting Aneurysms in Turkeys.
W. R. Pritchard, Gainesville, Fla.; W. Henderson and C. W. Beall, Lafayette, Ind.

10:20 Election of Section Officers.

10:30 (32) The Pharmacology of Sulfabromomethazine, a New Long-Acting Sulfonamide, in Cattle.
C. M. Stowe, St. Paul, Minn.; A. L. Aronson, Minneapolis, Minn.; and Kermit Johnson, Millbank, S. Dak.

10:50 (33) Vitamins in Antibody Production.
A. E. Axelrod, Pittsburgh, Pa.; J. Pruzansky, Chicago, Ill.; and A. B. Stavitsky, Cleveland, Ohio.

11:10 (25) Television (jointly with Section on General Practice)—Cardiac Resuscitation in the Dog.
Narrator—C. R. Smith, Columbus, Ohio.
Demonstrators—R. W. Redding and R. L. Rudy, Columbus, Ohio.

11:30 (34) Quantitative Liver Assessment in Cattle Using the Bromsulphalein Clearance Technique.
C. E. Cornelius, G. S. Theilen, and E. A. Rhode, Davis, Calif.

Adjournment at 12:00 noon.

Section on Small Animals

Tuesday, August 20, 11:10 a.m.

Music Hall, Auditorium

K. W. Smith, *Chairman* R. J. Beamer, *Secretary*

First Session

11:10 (25) Television (jointly with Sections on General Practice and Research)—Cardiac Resuscitation in the Dog.
Narrator—C. R. Smith, Columbus, Ohio.
Demonstrators—R. W. Redding and R. L. Rudy, Columbus, Ohio.

11:30 (26) Problems in Canine Distemper Immunization (jointly with Section on General Practice).
George Eberhart, Manhattan, Kan.

Adjournment at 12:00 noon.

1:15 Remarks by the Chairman.

1:20 (35) Motion Picture—Canine Obstetrics.
E. P. Leonard, Ithaca, N.Y.

1:40 (36) Congenital Dysplasia of the Hip Joint in the Dog.
I. Genetic Aspects.
J. G. Snavely, Toledo, Ohio.

2:00 (37) II. Radiological Aspects.
A. C. Wheeler, East Lansing, Mich.

2:20 (38) Proliferative Inflammation and Neoplasms of the Skin of Dogs and Cats.
Charles Bridges, College Station, Texas.

2:50 (39) Television—Permanent Intramedullary Pinning of the Femur.
R. L. Leighton, Scarsdale, N.Y.
Narrator—C. E. DeCamp, Scarsdale, N.Y.

3:10 (40) Television—New Surgical Equipment.
W. F. Hoffman, Pittsburgh, Pa.

3:30 Appointment of Nominating Committee.

3:35 (41) Television—Sutures and Suturing.
E. P. Leonard, Ithaca, N.Y.

3:55 (42) Panel Discussion of Pancreatic Disorders.
Moderator—David Coffin, New York, N.Y.
M. L. Morris, Topeka, Kan.
F. Candlin, Denver, Colo.
C. R. Smith, Columbus, Ohio.
S. W. Nielsen, Columbus, Ohio.

Adjournment at 4:45 p.m.

Section on Public Health

Tuesday, August 20, 1:15 p.m.

Ballroom, Auditorium

J. H. Helwig, *Chairman* N. G. MacEachern, *Secretary*

First Session

1:15 Opening Remarks by the Chairman.

1:25 (43) Motion Picture—Animals in Rocket Flight.
Produced by U.S.A.F.

1:45 (44) Recent Findings in Animal Ringworm and Their Public Health Implications.
William Kaplan and Lucille K. Georg, Chamblee, Ga.

2:05 (45) Television—The Diagnosis of Ringworm in Animals.
William Kaplan, Chamblee, Ga., and R. D. Courter, Atlanta, Ga.

2:30 (46) Relationship of Animal Skin Diseases to Human Beings.
J. H. McCreary, Columbus, Ohio.

3:00 (47) Fall-Out, Civil Defense, and Effects of Radiation on Man.
E. P. Cronkite, Upton, N.Y.

3:20 (48) The Need for Sanitation in Poultry Processing.
J. H. Scruggs, New York, N.Y.

3:40 Appointment of Nominating Committee.

3:45 (49) Research, Technology, and Our Meat Supply.
V. R. Cahill, Columbus, Ohio.

4:05 (50) Chemical Residues in Meat.
R. K. Somers, Washington, D.C.

Adjournment at 4:30 p.m.

Section on Poultry

Wednesday, August 21, 8:30 a.m.

Ballroom, Auditorium

L. C. Grumbles, *Chairman* P. P. Levine, *Secretary*

First Session

8:30 Opening Remarks by the Chairman.

8:40 (51) Symposium—Chronic Respiratory Diseases.

Isolation and Identification of Pleuropneumonia-like Organisms of Avian Origin.
H. E. Adler, Richard Yamamoto, Jeri Berg, Davis, Calif., and Julius Fabricant, Ithaca, N.Y.

Bacterial, Viral, and Other Stress Factors.
W. B. Gross, Blacksburg, Va.

Epizootiology.
Henry Van Roekel and Olga M. Olesiuk, Amherst, Mass.

Discussion.

Control.
Erwin Jungherr, Storrs, Conn.

Chronic Respiratory Disease and Sinusitis in Turkeys.
B. S. Pomeroy, St. Paul, Minn.

Discussion.

10:35 Appointment of Nominating Committee.

10:40 (52) Television (jointly with Small Animals)—Handling and Treatment of Caged Birds.
I. E. Altman, Brooklyn, N.Y.

11:00 (53) The Control of Leukosis.
F. B. Hutt and R. K. Cole, Ithaca, N.Y.

11:20 (54) Recent Studies on the Natural Transmission of Visceral Lymphomatosis.
B. R. Burmester, East Lansing, Mich.

11:40 (55) Immune Response in Chickens to *Beta*-Propiolactone-Killed Newcastle Disease Vaccines.
J. F. Sullivan, Eugene Gill, and A. M. Somer, Beltsville, Md.

Adjournment at 12:00 noon.

Section on Small Animals

Wednesday, August 21, 8:30 a.m.

Music Hall, Auditorium

K. W. Smith, *Chairman* R. J. Beamer, *Secretary*

Second Session

8:30 (56) Motion Picture—Surgery of the Stifle.
E. P. Leonard, Ithaca, N.Y.

9:00 (57) Intracranial Pathology of the Dog.
J. T. McGrath, Philadelphia, Pa.

9:40 (58) Television—Surgical Repair of the Nares in Boxer Dogs.
H. C. Leonard, Cheshire, Conn.

9:50 (59) Television—Neurological Examination of the Dog.
J. T. McGrath, Philadelphia, Pa.

10:20 (60) Thoracic Disorders in the Cat.
Jean Holzworth, Boston, Mass.

10:35 Election of Section Officers.

10:40 (52) Television (jointly with Section on Poultry)—Handling and Treatment of Caged Birds.
I. E. Altman, Brooklyn, N.Y.

11:00 (61) Re-evaluation of Tranquilizers After One Year.
J. O. Knowles, Miami, Fla.

11:15 (62) Panel on Some Kennel-Borne Communicable Diseases.
Moderator—W. T. S. Thorp, St. Paul, Minn.

Providing Normal Healthy Dogs for Medical Research.
W. I. Gay, Bethesda, Md.

Infectious Canine Hepatitis.
J. H. Gillespie, Ithaca, N.Y.

Distemper.
Franklin Gruesser, Akron, Ohio.

Leptospirosis.
J. H. Knapp, Columbus, Ohio.

Preventive Measures for Communicable Diseases.
A. G. Misener, Chicago, Ill.

Adjournment at 12:00 noon.

Section on Public Health

Wednesday, August 21, 1:15 p.m.

Ballroom, Auditorium

J. H. Helwig, *Chairman* N. G. MacEachern, *Secretary*

Second Session

1:15 (63) Motion Picture—Preventive Medicine, U.S.A.F. Team in Action.
Produced by U.S.A.F.

1:45 (64) Television—Veterinary Research in Space Medicine.

I. Experiments in Rockets and Balloons.
D. G. Simons, Holloman Air Force Base, N. M.

II. Cosmic Radiation.
I. J. Lebish, Washington, D. C.

2:15 (65) A Study of Human Infections of Vesicular Stomatitis.
W. C. Patterson, L. O. Mott, and E. W. Jenney, Beltsville, Md.

2:35 (66) Recent Advances in the Laboratory Diagnosis of Viral and Rickettsial Diseases.
Morris Schaeffer, Montgomery, Ala.

3:05 Election of Section Officers.

3:10 (67) Epidemiology of Animal Neoplasms.
S. W. Nielsen, Columbus, Ohio.

3:40 (68) Panel on Veterinary Medicine and Public Health Administration.

Moderator—J. H. Steele, Atlanta, Ga.
Ralph Dwork, Columbus, Ohio.
Harry Geyer, Columbus, Ohio.
W. M. Decker, Lansing, Mich.
Robert Willson, Detroit, Mich.

Adjournment at 4:30 p.m.

Section on Surgery and Obstetrics

Wednesday, August 21, 1:00 p.m.

Music Hall, Auditorium

F. C. Neal, *Chairman* W. F. Riley, Jr., *Secretary*

First Session

1:00 (69) Motion Picture—Cryptorchism in Animals.
University of Pennsylvania, Philadelphia, Pa.

1:30 Opening Remarks by the Chairman.

1:35 (70) Race Horse Practice.
J. E. Peters, Pasadena, Calif.

1:55 (71) Motion Picture—Standing Operation for Removal of Fractured Splint Bones in the Horse.
Bruce Farquharson, Phoenix, Ariz.

2:20 (72) Panel on Parenteral Enzyme Therapy.
Concept of Enzyme Therapy.
H. L. Easterbrooks, Kennett Square, Pa.
Enzyme Therapy in Cattle.
V. L. Tharp, Columbus, Ohio.
Enzyme Therapy in the Horse.
L. E. Johnson, Columbus, Ohio.

3:00 (37) Television—Technique for Intra-articular and Intrabursal Injection of Corticosteroids.
D. L. Proctor, Jr., and R. J. Ausherman, Lexington, Ky.

3:20 (74) Enzymatic Debridement of Burns.
R. B. Gochenour, J. P. Lowenthal, and M. E. Webster, Washington, D.C.

3:50 Appointment of Nominating Committee.

3:55 (75) Television—Fractures of the Fibula in the Horse and Associated Lamenesses.
R. L. Lundvall, Ames, Iowa.

4:15 (76) Television—Body Fluid and Electrolyte Balance in Large Animal Surgery.
E. W. Jones, Stillwater, Okla.

4:35 (77) Motion Picture—The Transfixation Method of Fracture Repair in Large Animals.
F. J. Milne, Guelph, Canada.

Adjournment at 4:55 p.m.

Section on Surgery and Obstetrics

Thursday, August 22, 8:30 a.m.

Music Hall, Auditorium

F. C. Neal, *Chairman* W. F. Riley, Jr., *Secretary*

Second Session

8:30 (78) Motion Picture—Embryotomy in Cattle.
F. J. Milne, Guelph, Canada.

9:00 (79) Television—New Devices and Techniques in Large Animal Practice.
R. E. McKinley, Erie, Pa.
H. E. Nichols, Greenville, Pa.

9:30 (80) Pathological Conditions in Old Bulls Causing Impaired Fertility.
Kenneth McEntee, Ithaca, N.Y.

9:50 (81) Television—Amputation of the Bovine Claw at the Pedal Joint.
Demonstrators—S. E. Ferguson, Lake Geneva, Wis., and Edwin Krueger, Evansville, Wis.
Narrator—Rolland Anderson, Elkhorn, Wis.

10:10 (82) A Preliminary Report on the Treatment of Cystic Ovaries in the Cow by the Direct Injection of Gonadotropic Hormones into the Follicular Cyst.
S. J. Roberts, Ithaca, N.Y.

10:35 (83) Television—Bovine Cesarean Section—Ventral Approach.
Demonstrator—M. P. Rines, East Lansing, Mich.
Narrator—W. F. Riley, Jr., East Lansing, Mich.

10:55 Election of Section Officers.

11:00 (84) The Diagnosis and Treatment of Nonspecific Infections of the Reproductive Tract of the Cow.
Harry Hardenbrook, Jr., Urbana, Ill.

11:20 (85) Television—An Improved Technique for Enucleation of the Bovine Eye.
R. L. Lundvall, Ames, Iowa, and H. D. Simpson, Pearl River, N.Y.

Adjournment at 11:40 a.m.

Section on Small Animals

Thursday, August 22, 8:50 a.m.

Ballroom, Auditorium

K. W. Smith, *Chairman* R. J. Beamer, *Secretary*

Third Session

8:50 (86) Motion Picture—Experimental Cardiac Surgery.
W. F. Hoffman, Pittsburgh, Pa.

9:25 (87) Contributions of Research to Our Knowledge of Distemper in Dogs.
J. H. Gillespie, Ithaca, N.Y.

9:50 (88) Some Physiological Responses of Dogs to External Radiation.
J. N. Shively, Washington, D.C.

10:10 (89) Television—Operative Surgery in Everyday Practice.
R. E. Storm, Evanston, Ill.

10:30 (90) Surgical Correction of Malocclusion in the Dog.
Duane Albrecht, Denver, Colo.

11:00 (91) Television—Practice Aids, Techniques, and Gadgets.
L. E. Green, Akron, Ohio, and M. L. Willen, Canton, Ohio.

11:15 (92) Panel on Skin Disease Problems and Their Management.
Moderator—F. R. Booth, Elkhart, Ind.
J. I. Cornwell, Asheville, N. Car.
R. E. Storm, Evanston, Ill.
J. A. Theobald, Cincinnati, Ohio.
R. W. Worley, South Bend, Ind.

Adjournment at 12:00 noon.

Section on Poultry

Thursday, August 22, 8:30 a.m.

Club Room B, Auditorium

L. C. Grumbles, *Chairman* P. P. Levine, *Secretary*

Second Session

8:30 (93) Anthelmintics in Poultry.
R. D. Turk, College Station, Texas.

8:50 (94) Chemotherapy of Blackhead.
E. E. Webr, M. M. Farr, and D. K. McLoughlin, Beltsville, Md.

9:10 (95) Chemotherapy of Avian Viral and Bacterial Infections.
M. S. Cover, Newark, Del.

9:30 Discussion.

9:40 (96) Bluecomb Disease of Turkeys. IV. Preliminary Studies on Parental Immunity and Serum Neutralization.
J. T. Tumlin and B. S. Pomeroy, St. Paul, Minn.

10:00 (97) Avian Infectious Hepatitis.
Martin Sevoian, R. W. Winterfield, and C. L. Goldman, Amherst, Mass.

10:20 (98) Control of Infectious Synovitis. VI. Chlortetracycline in Experimental Field Trials.
N. O. Olson and D. C. Shelton, Morgantown, W. Va.

10:40 Discussion.

10:50 Election of Section Officers.

11:00 (99) Additional Studies on the Relationship of Mycotoxicoses to Poultry Hemorrhagic Syndrome.
Joseph Forgacs, Henry Koch, W. T. Carll, and R. H. White-Stevens, Pearl River, N.Y.

11:20 (100) Eastern Equine Encephalomyelitis in Pheasants.
R. E. Kissling, Montgomery, Ala.

11:40 (101) The Indirect Hemagglutination Test in the Avian Salmonella Problem.
J. M. Sieburth, Blacksburg, Va.

Adjournment at 12:00 noon.

The Scientific Exhibits

The scientific exhibits at the Cleveland meeting have been furnished by several educational institutions and governmental agencies. They are located in the Public Auditorium with the commercial exhibits.

All veterinarians are urged to visit these exhibits which are designed to portray important aspects of problems requiring the profession's attention.

Aerobiological Research (The Henderson Apparatus)

U.S. Army Chemical Corps Research and Development Command, U.S. Army Biological Warfare Laboratories, Fort Detrick, Md.

(Due to clearance required by the Department of the Army, the description of this exhibit was not available at publication time.)

Veterinary Medicine in Air Force Research

United States Air Force Medical Service—Lt. Col. Charles H. Snider, V.C., U.S.A.F., Lt. Col. Neil G. MacEachern, V.C., U.S.A.F.

The exhibit will present by means of color transparencies the professional activities of the United States Air Force Veterinary Service and its participation in Air Force Research.

Analogous Pathological Patterns in Man and Animals

Armed Forces Institute of Pathology, Registry of Veterinary Pathology—Lt. Col. T. C. Jones, V.C., U.S. Army; Major C. N. Barron, V.C., U.S.A.F.; Capt. R. N. McCully, V.C., U.S.A.F.

This exhibit shows a comparison of pathogenic entities in animals to similar diseases in man with a view to suggesting areas for research in animal diseases with application to the human subject. It describes metabolic disorders, neoplasia, and infectious diseases. Diseases with particular application to military medicine or aeromedical research are also emphasized.

The Culturing of Milk for Mastitis

New York State Mastitis Research and Control Program

This exhibit will depict the simple but adequate procedures used in routine laboratory determination of the presence or absence of the possible pathogenic organisms commonly associated with bovine mastitis.

The Development of the Microscope and Microscopy

Medical Museum of the Armed Forces Institute of Pathology—Morris C. Leikind, Medical Historian and Archivist

In four panels the evolution of the microscope and microscopy is traced. Panel 1 is a chronological table of some significant dates in the development of this instrument. Panels 2 and 3 include color photographs of selected early microscopes from the collection of the Medical Museum of the Armed Forces Institute of Pathology. The final panel shows portraits of pioneers of microscopy.

Disease-Free Laboratory Animals

Veterinary Corps, U.S. Army Medical Service

This exhibit shows the desirability of disease-free animals in medical research. It features a three-dimensional model of a typical disease-free animal colony with the essential layout. Color transparencies and captions portray the story of the establishment of a colony, control of environment, control of diseases and parasites, nutrition, and laboratory support for the colony. The advantages of disease-free animals in research and the veterinarian's successful operation of such a project are emphasized.

Electron Micrographs of Lesions in the Avian Leukoses

Regional Poultry Research Laboratory, Agricultural Research Service, U.S. Department of Agriculture

Electron microscope studies of sections of mammary tumors of mice, leukemic organs of mice, the organs of chickens with visceral lymphomatosis,

and of lymph nodes of acute human leukemia are presented. Virus-like particles and characteristic changes in the examined cells have been observed. Changes in cells of spontaneous and induced leukemia in mice resemble those found in chicken lymphomatosis. Virus-like particles in lymphomatosis resemble those in Rous sarcoma. Cell changes in mouse leukemia and chicken lymphomatosis are similar to those in cervical lymph nodes in acute human leukemia. They differ from those in mouse mammary carcinoma. Virus-like particles are also present in the cells of acute human leukemia. The nature of the virus-like particles is now being studied.

Five Centuries of Veterinary Anatomical Illustration

Department of Anatomy, College of Veterinary Medicine, Michigan State University

The development of veterinary anatomical illustration from 1500 to 1900 is depicted in a series of photographic reproductions of plates from works in the Michigan State University Veterinary Historical Collection. The significant work of farriers, veterinarians, medical men, and artists is represented.

Food Poisoning

Department of Microbiology and Public Health, College of Veterinary Medicine, Michigan State University

Food poisoning due to *Micrococcus pyogenes, Clostridium botulinum,* streptococci, and Salmonella is illustrated. Sources of contamination, common foods involved, thermostability of toxins and organisms, signs of illness, mortality rates, and handling procedures for prevention of illness are presented.

Pan-American Zoonoses Center

Pan-American Sanitary Organization, Regional Agency of the World Health Organization

This exhibit will depict, largely in photographic form with a minimum of text, the research being carried on at this center on the major animal diseases transmissible to man in the Western Hemisphere. The Center is located in Azul, Argentina, and operates for all countries in the Hemisphere.

Pathology in Poultry Inspection

Agricultural Marketing Service, Poultry Division, U.S. Department of Agriculture

Colored transparencies of poultry disease processes, sketches depicting inspection activities, and placards showing official marks indicating wholesomeness for consumers' protection will be displayed.

Psittacosis-Ornithosis—An Increasing Disease Problem

Communicable Disease Center, Public Health Service, U.S. Department of Health, Education, and Welfare

This exhibit will consist of panels and about 36 colored slides on a continuous projector. The panels will graphically depict the epidemiology and epizootiology of the disease, the species in which it is manifested, the reservoir species, and control measures. The slides will show the history of the disease in the past ten years, pathology, and some of the details of treatment.

The Veterinarian and Animal Breeding

Ontario Veterinary College, Guelph, Ontario, Canada

This exhibit illustrates the fact that scientific animal breeding is an increasing challenge for the veterinarian. Breeding efficiency is enhanced by applying a knowledge of several subjects; modern genetics, nutrition, and the control of disease are inter-related factors and must be applied by the veterinarian in this important field.

The Commercial Exhibits at Cleveland

The commercial exhibits at the Ninety-Fourth Annual AVMA Convention will—as always—be a colorful demonstration of the many products and technical developments which enable veterinarians to keep abreast of the times in their services to clients and patients.

Over 75 leading companies will occupy 100 booths in the Municipal Auditorium.

The American Veterinary Exhibitors Association will again sponsor awards as part of its program of improving the exhibits feature and stimulating interest in, and inspection of, the displays. Details on how to qualify for these prizes will be distributed to registrants.

Aeroplast Corporation

Booth 61

Aeroderm Protective Dressing, the plastic spray-on dressing that is sprayed directly over the wound from an aerosol dispenser, will be featured. A sterile solution, Aeroderm Dressing dries to form a tough flexible film that is waterproof and impermeable to bacteria. Surgical applications include teat wounds, cesarean sections, herniorrhaphies, rumenotomies, burns, abrasions, excoriations, and preoperative use.

Albers Milling Company—Division of Carnation Company

Booth 8

The complete line of Friskies pet foods will be on display. These include Canned Friskies, Friskies Meal, Cubes, Kibbled, Biscuits, and Friskies Cat Food. Dr. E. M. Gildow and Robert Bartos, manager of the Friskies Research Kennels, will be in attendance and will answer questions on dog nutrition and kennel management. Full-color reproductions of Douglass Crockwell dog paintings suitable for framing will be available at the Albers booth as well as other material designed as a service for veterinarians.

Allied Laboratories, Inc., Pitman-Moore Company Division

Booths 10 and 11

For the seventh consecutive AVMA convention, Allied Laboratories, Inc., is proud to sponsor with RCA the closed-circuit telecasts included in the scientific program. Our exhibit will feature a new, modified live virus Hog Cholera Vaccine, rabbit origin, to be used with serum. A new, modified live virus, combined distemper and hepatitis vaccine; also a new vaccine developed by Pitman-Moore Company for vaccination against infectious bovine rhinotracheitis. On the pharmaceutical side, we will feature a combination androgen-estrogen parenteral solution and tablets.

American Cyanamid Company, Veterinary Professional Service Dept.

Booths 58 and 59

The American Cyanamid Company, Veterinary Professional Service Department, will feature a complete assortment of professional products, including canine distemper vaccine and serum, avianized rabies vaccine, the various polyotic products, and the recent additions such as Rovine modified live virus hog cholera vaccine, Pro-K-Mycin, and Cyvac. All for veterinarians only.

Ames Company, Inc.

Booth 32

The Ames Company will feature an entirely new concept in the detection and evaluation of proteinurea. The presence of protein is indicated by a color change either on a tablet, Albutest, or a paper stick, Albustix. Ames representatives will be happy to demonstrate these and all other Ames urinary diagnostic products.

Arista Surgical Co.

Booth 22

Our exhibit will include the latest in general surgery instruments, suture

material, and bandages. There will also be a complete display of eye and orthopedic instruments available to the veterinarian. We will display some of the latest oxygen, autoclave, and sterilizing equipment.

Armour Veterinary Laboratories—A Division of Armour & Company

Booth 75

The Armour exhibit will feature a line of highly palatable, medicated canine tablets. The feature of these tablets is their unique properties of being readily eaten by the animal. We will also show our established line of hormone products and proteolytic enzymes. An assortment of other products will be represented.

Arnold Laboratories

Booth 7

Arnold pharmaceutical products will be featured.

Association of American University Presses

Booth 74

Books published by American University Presses in the field of veterinary science will be featured.

Bilhuber-Knoll Corp.

Booth 64

Stop at the Bilhuber booth just for a rest and a friendly visit; for helpful suggestions regarding new uses for older Bilhuber drugs—Metrazol, Octin, Tannalbin, Theocalcin, Quadrinal; or for information on other Bilhuber preparations with which you are not so familiar, such as Dilaudid, the opiate analgesic and antitussive.

Campbell X-Ray Corporation

Booth 71

Campbell X-Ray Corporation of Boston, Mass., will exhibit the X-Ray Animagraph of exclusive veterinary design. The Animagraph provides the veterinarian with a compact unit of beautiful design and construction to supply radiography, fluoroscopy, superficial therapy, and portability without the expense of installing high-voltage, heavy-duty power lines.

Chicago Pharmacal Company

Booth 3

The following Chivet products are featured: Urised tablets for all types of inflammations of the urinary tract—Urised performs a thorough antisepsis plus sedation without danger of allergic reaction or sensitivity; Vermizine, the clinically proved piperazine vermifuge in the gluconate form for superior flavor—no problem on administration; plus a rapidly growing veterinary line awaiting your inspection.

Ciba Pharmaceutical Products, Inc.

Booth 62

Two products are featured: Serpasil, Ciba brand of reserpine, indicated in calming, quieting, and reducing nervousness and abnormal responses to emotional stress in dogs, and Vioform-Hydrocortisone, antibacterial, antifungous, anti-inflammatory, antipruritic, indicated in the treatment of eczematous dermatoses and fungous infections.

Corn Belt Laboratories, Inc.

Booth 36

In addition to their Anti-Hog Cholera Serum and biological products of the Affiliated Laboratories Corporation, Corn Belt will have on display many of the Corn Belt family of fine pharmaceutical products. All members of the profession and their families are cordially invited to visit our booth.

Corn States Laboratories, Inc.

Booth 98

Featuring for the first time Statomycin, the new bactericidal antibiotic which is particularly valuable for treating infections caused by gram-positive organisms which are resistant to other antibiotics and for infections in animals which are hypersensitive to other antibiotics. Statomycin does not upset the bacterial balance of the intestines.

Curts Laboratories, Inc. (Formerly Curts-Folse)

Booth 1

Curts pharmaceutical products are created to meet the needs of the most discriminating veterinarian. Dr. Curts will display, and be happy to discuss with you, seasonal specialties as well as "year-round" staples for both the general and specialized practitioner.

Diamond Laboratories Co.

Booth 25

Diamond Laboratories Co. will display a complete line of biological and pharmaceutical products for use by both large and small animal practitioners, featuring D.L.V., a modified hog cholera vaccine; Triple Canine Serum, distemper-hepatitis-Leptospira antiserum; K.D.H., distemper-hepatitis vaccine with bacterin; and a complete Hauptner line of instruments.

Doho Chemical Corporation

Booth 54

Doho Chemical Corporation is pleased to exhibit: Auralgan, for medication in otitis media and removal of cerumen; Otosmosan, a nontoxic fungicidal and bactericidal agent for treatment of suppurative and dermatomycotic ear conditions; Rhinalgan, nasal decongestant free from systemic or circulatory effect and equally safe to use on young as well as old animals; and New Larylgan, soothing throat spray for infectious and noninfectious sore throat involvements. Mallon Chemical Corporation, subsidiary of the Doho Chemical Corporation, is also featuring: Rectalgan, the liquid topical anesthetic for relief of pain and discomfiture in hemorrhoids, pruritus, and perineal suturing; and Dermoplast, an aerosol freon propellant spray for relief of surface pain, itching, burns, and abrasions, also for obstetrical and gynecological use.

Drug Publications, Inc.

Booth 93

The new, completely rewritten fifth edition of "The Veterinary Drug Encyclopedia and Therapeutic Index" will be on display. This edition has been enlarged to over twice the size of the original edition and contains numerous improvements and changes, including an instrument section. Products appearing for the first time in this new edition are identified. We invite your inspection and suggestions.

Eaton Laboratories

Booth 97

In the treatment of urinary tract infections of dogs and cats, Furadantin quickly produces high antibacterial concentrations in the urine. Canine tracheobronchitis (kennel cough), a troublesome problem in the past, is rapidly controlled by Furadantin without recurrence. New Entefur provides 93 per cent effective treatment of calf scours. Furea is a most efficient treatment of retained placenta.

Eisele & Company

Booth 91

Eisele & Company will display their regular line of clinical thermometers; hypodermic syringes, both the regular type and those that are interchangeable; hypodermic needles; ECO bandages; and specialty glassware.

Electro Medical Equipment Co.

Booth 63

Electro Medical Equipment Co., distributor for Universal X-Ray Products, Inc., manufacturers of x-ray equipment for over 30 years, has on display a new low-priced x-ray machine operated on an ordinary 115-volt outlet. This powerful machine will produce sharp fluoroscopy or x-ray films easily and safely in the veterinarian's office or hospital.

Ellfield Laboratories

Booth 95

An HO-gauge model railroad will transport miniatures of Vi-Con-Ella, Elcarmycin, and other new preparations continuously around a scenic track. Ellfield also features a new-type rumen stimulant, a new pododermatitis ointment, chorionic gonadotropin, hyaluronidase, adrenal cortex, and a demonstration of the Uremi-Lab, instantaneous blood-urea test kit.

H. G. Fischer & Co.

Booth 18

Exceptionally good diagnostic radiographs made by prominent veterinarians will be on display at our booth. You can also examine personally the most modern x-ray equipment that is ideally suited for veterinary practice. Attendants will be glad to demonstrate the equipment and answer any questions.

Fort Dodge Laboratories, Inc.

Booths 68 and 69

Our exhibit will feature Meprobamate, a tranquilizer for animals; Medi-Canuls, a medicated plastic teat cannula; Nolvasan, a new broad-spectrum bactericide; M-L-V, the original live virus hog cholera vaccine; Distohep, a combined canine distemper and infectious hepatitis vaccine (canine origin); and Rabies Vaccine, a modified live virus vaccine (chicken embryo origin).

Fromm Laboratories

Booth 26

Fromm Laboratories will display their line of quality, small animal biological products, including an improved Ferret Origin Canine Distemper Vaccine and one of chicken embryo origin. Also on display will be two products of recent development, Bioid and Hepoid.

Gaines Dog Foods, General Foods Corporation

Booth 70

The Gaines Dog Foods, General Foods Corporation, will have a display of their Gaines products. Representatives will be in attendance, at the exhibit, to explain the many advantages of these products.

Goshen Laboratories, Inc.

Booth 85

The products of Goshen's own manufacture will be displayed and also those of other manufacturers which are sold by Goshen on a sole agency basis.

Haver-Lockhart Laboratories

Booths 12, 13, and 14

Haver-Lockhart will exhibit biological and pharmaceutical products for large and small animals and display surgical instruments and related hospital supplies.

Heldenbrand & Son Mfg. Co.—Silver King Veterinary Chute

Booth 60

The portable cattle chute (cattle-restraining device) to be featured is 7½ ft. long, 6 1/3 ft. high, and 5 ft. wide and is constructed of new pipe, electrically welded, except for the lower side panels and the cleated floor which is 2-in. oak. By means of a worm gear winch and drop axle, the chute can be put on and off its wheels.

Prescription Diet Department, Hill Packing Company

Booth 19

Our line of Prescription Diets available only to graduate veterinarians will be displayed. These include five canned Prescription Diets: K/D, P/D, R/D, I/D, C/D, and the new dry, foundation ration F/D.

Hill's Pet Foods, Hill Packing Company

Booth 80

Our pet food line includes Hill's Dog Food, Special Pack 16 per cent protein dog and cat food, Puppy Food, Cat Food "liver flavor" and "fish flavor," Hill's U.S. Inspected Canned Horsemeat, and Hill's U.S. Inspected Gravy and Horsemeat.

Import-Export Dr. S. Jackson, Pharmaceutical, Diagnostic, Surgical Specialties

Booth 96

This exhibit will feature: Coecolysin, the world's only veterinary preparation containing peristaltic hormone; Otrhomin, bactericidal, colloidal pole-reversing, antiallergic, and *gamma* globulin-increasing; Electromagnetic Metal Detector, latest model with both optical and acoustical indications; Self-Expanding Teat Dilator, not a teat plug but a surgical instrument; Vetafil, a new surgical suture every veterinarian knows about; Perlon OB Ropes, superior to chains; Perlon Tie-Down Rope; and Rumenotomy Device and Flexible Embryotome, modern instruments for the modern practitioner.

Jensen-Salsbery Laboratories, Inc.

Booths 65, 66, and 67

The Jen-Sal exhibit will feature several new and outstanding biological and pharmaceutical products for the large and small animal practitioner. The latest developments in surgical equipment and hospital supplies will also be displayed.

Kellogg Company

Booth 24

The Kellogg Company will feature a display of Gro-Pup Dog Food—Ribbon, Meal, and T-Bone forms. Representatives from our Sales and Research Departments will be available to explain the potential of this unique dog food.

Kirschner Mfg. Co.

Booth 6

We invite all convention registrants to visit our booth. On display will be our full line of instruments and glass-plastic animal cages.

Lea & Febiger

Booth 39

Lea & Febiger cordially invite you to examine these books of interest to everyone in veterinary medicine: Smith and Jones: "Veterinary Pathology";

McGrath: "Neurological Examination of the Dog"; Miller: "Meat Hygiene"; Card: "Poultry Production"; Brumley: "Diseases of Small Domestic Animals"; and Barger and Card: "Diseases and Parasites of Poultry."

The S. E. Massengill Co.

Booth 5

Qualified representatives will be on hand to tell you about the latest Massengill veterinary products available only to veterinarians.

Miles Laboratories, Inc.

Booth 92

Miles Laboratories, Inc., Elkhart, Ind., will feature Bactine, the bactericide combining effective antibacterial, antifungous, detergent-cleansing, and deodorizing actions with a wide margin of safety. The exhibit will show use of Bactine on hands to help prevent transfer of pathogenic bacteria. Miles representatives will explain additional uses of Bactine for preinjection and presurgical preparation, for cold disinfection of instruments, and for sanitizing and deodorizing equipment.

Miller Surgical Co.

Booth 45

See the Miller Electro Surgical Units and accessories, such as snares, suction-coagulation attachments, and grasping forceps. Also complete line of djagnostic equipment consisting of illuminated otoscope, ophthalmoscope, transillumination lamps, gastroscopes, bronchoscopes, eyespud, stomach and eye magnet, pyometria scope, battery handle, reflecting headlight, and Miller Reelostat.

Motorola Communications & Electronics, Inc.

Booth 28

Motorola 2-Way FM radio equipment for complete radio communications systems as adapted for veterinarians will be featured.

The National Laboratories Corporation

Booth 76

This exhibit will consist of pharmaceutical and biological products and some instruments.

Nicholson Manufacturing, Inc.

Booth 4

Nicholson precision veterinary equipment on display will include: Hi-current electric cautery, branding irons, fetal extractor, Swanson syringe, instrument and serum cases, plastic signs, Plasti-plated kennels, and Copon paint.

Norden Laboratories

Booths 51 and 52

Norden Laboratories cordially invites you to visit its exhibit, where a wide variety of pharmaceutical and biological items will be on display, and experienced representatives will be on hand to discuss the latest developments in veterinary medicine. Veterinarians are our business—our only business!

Ohio Chemical & Surgical Equipment Co.
(A Division of Air Reduction Company, Inc.)

Booth 94

This exhibit will feature new equipment and materials especially designed for use in veterinary practice, such as: Ohio-Heidbrink Ether Oxygen Anesthesia Machine with Circle Absorber; Trimar Anesthesia Apparatus for use on small animals; two models of an Oxygen Therapy and Resuscitation

unit; catheters and various other accessories for inhalation anesthesia, oxygen therapy, and resuscitation; and surgical sutures and needles on Dispenso-reel in convenient plastic packets.

Orthopedic Equipment Company—Veterinary Division

Booth 56

It is the aim of the Veterinary Division of Orthopedic Equipment Company to bring to the field of veterinary surgery the same high quality equipment supplied to the orthopedic surgeon. We will feature the Gorman Hip Prosthesis, along with intramedullary pins and nails, bone drills, and the Automatic Stitch Clip. Please register for our entirely new "Veterinary Catalog."

Parke, Davis & Company

Booth 50

Parke, Davis & Company cordially invite you to visit their exhibit. Experienced representatives will greet members of the profession and afford them an opportunity to become better acquainted with some of their specialties, particularly Chloromycetin, our broad-spectrum antibiotic, and Surital Sodium, our ultrashort-acting anesthetic.

Parlam Corporation

Booth 15

This exhibit will present Mikedimide, the safe new barbiturate antagonist which provides more effective control of barbiturate anesthesia, strong respiratory and circulatory stimulant, therapeutically proved in emergency and routine cases; Parlamate, the safest, most effective anthelmintic, now available in more convenient dosage forms and sizes; and Solusponge, absorbable starch sponge to stop bleeding fast.

Pfizer Laboratories, Division, Chas. Pfizer & Co., Inc.

Booths 41, 42, and 43

You are cordially invited to the Pfizer exhibit to obtain the latest information on Sterane, the most potent adrenocortical hormone; Terramycin, the established broad-spectrum antibiotic; and new Blo-Trol for quicker relief of frothy bloat. Pfizer offers the veterinary practitioner a wide variety of modern therapeutic agents in an ever-expanding line.

Professional Veterinary Service

Booth 89

The newest Equine Etherizer that enables the veterinarian to safely perform large animal surgery and reduces the recovery time to a minimum and inhalation therapy and ether equipment for large and small animals will be featured.

The Quaker Oats Company

Booth 27

Ken-L-Products Dog Foods will be displayed.

Randall Faichney Corporation

Booth 47

The Randall Faichney Corporation will feature a complete line of Viking and Dura-Viking hypodermic needles and syringes with special emphasis on the Imperial-Viking syringe with interchangeable ground barrels and plungers. The new Vikomatic syringe for the automatic delivery of predetermined volumes will be displayed.

Ranger Equipment Company

Booths 33 and 34

Featuring modern surgical methods in continuous movies, using the Ranger Portable Chute, will make this an educational exhibit. Portable livestock

scales, efficient watering equipment, and many other pieces of equipment contributing to modern livestock raising will be shown.

Research Laboratories, Inc.

Booth 90

Research Laboratories, Inc., cordially invite you to visit their exhibit where their representatives will welcome the opportunity to discuss with you the products offered the veterinary profession. On exhibit will be some of their pharmaceutical and biological specialties, featuring Sin-Jex, Tri-Jex, Femulgen, Erysin, Pasture Plus, and Pelzine. Literature will be available on all products.

Sani-Cage Distribution Company

Booth 53

The finest fabricated cage, manufactured of stainless steel, will be displayed. Oxygen doors, drop-leaf tables, and other equipment are this firm's specialties.

Schering Corporation

Booths 29 and 30

Schering Corporation's scientific and sales personnel will be present at our exhibit to discuss the application of Schering's veterinary specialty products. The products featured will be Meticorten, Meticortelone, Meticillin, Metibiotic, Metimyd, Variton Compound, and Variton Cream. All guests at the convention are cordially invited to visit the Schering exhibit.

Shank's Machine Company

Booth 2

In their booth, Shank's Machine Company will use a motion picture to demonstrate the operation of the Douglas Tilt-Master Veterinary Operating Table. A table will also be on display outside the Auditorium.

E. R. Squibb & Sons

Booths 78 and 79

E. R. Squibb & Sons has long been a leader in development of new therapeutic agents for prevention and treatment of disease. The results of our diligent research are available to the veterinary and medical professions in new products or improvements in products already marketed. At booths 78 and 79, we are pleased to present up-to-date information on these advances for your consideration.

Stanton Scientific Equipment Co.

Booth 84

Visitors are cordially invited to witness demonstrations of our new AVR unit for controlled respiration during surgery. An outstanding new development in ether-oxygen anesthesia, the AVR unit has proved itself in wide clinical usage. Leading clinicians report outstanding success with this fine new instrument throughout their entire surgical schedule, as it is not limited to thoracic work. We also invite you to inspect and discuss our latest models of the Handy Resuscitator for small and large animals. Completely new adaptations of this important respiration equipment will be exhibited.

Suburban Surgical Supply

Booth 99

Scientifically designed, modern, stainless steel animal cages and a full line of surgical instruments and equipment will be featured.

Swift & Company

Booth 31

Swift & Company's booth will feature the company's two dog foods—Canned Pard and both the homogenized and flake-textured Pard Meal. The Swift & Company representative will again accept requests for dog care and training pamphlets.

U.S. Vitamin Corporation

Booth 38

This exhibit will feature C.V.P., the exclusive water-soluble, natural citrus bioflavonoid, which has only recently been proved successful in the prevention of encephalitis and other complications associated with the virus of Carré disease. C.V.P. is also effective in feline enteritis and certain pneumonic disorders in both dogs and cats. Methischol, complete lipotropic formula (choline, inositol, methionine, B_{12}, and liver extracts), will also be on display. Methischol is effective as an adjuvant in the treatment of infectious canine hepatitis and specific in other liver disorders, such as functional liver impairment, toxic hepatitis, liver damage due to nutritional deficiency, and in aged dogs with fatty infiltration.

The Upjohn Company

Booth 46

Members of the veterinary medical profession are invited to visit the Upjohn booth where members of the Upjohn Company professional detail staff are prepared to discuss subjects of mutual interest.

Veterinary Medicine

Booth 57

Veterinary Medicine will exhibit copies of recent issues and invite examination by those unfamiliar with this monthly publication. There will also be on display selected new books of interest to veterinarians. An attendant will be present to answer questions regarding your subscription and to accept new orders.

Vitamineral Products Co.

Booth 72

The Vitamineral Products Co., Peoria, Ill., invites you to stop at booth 72 for copies of the "VpC Feed Formula Book" which contains valuable information on the proper care and feeding of livestock and poultry. We know your clients will appreciate a copy.

Warner-Chilcott Laboratories

Booth 9

Warner-Chilcott veterinary specialties are developed for and sold only to veterinarians through ethical veterinary distributors. Anabolin, metabolic regulator to aid in recovery from debilitated states caused by age, infection, stress, surgery, or trauma; Triocil, new synthetic chemotherapeutic agent effective against bacteria, fungi, and certain protozoa; and Paxital, the safe animal tranquilizer—"chemical rather than physical restraint," will be featured.

The Warren-Teed Products Company

Booth 16

An expanding service to the graduate licensed veterinarian—exclusively—keynotes Warren-Teed's specialty product offerings to you. The booth pictorially presents the story behind your Warren-Teed representative and his products. Featured products include the new systemic hemostatic agent, Klot; a multipurpose skin preparation, Polyderm; and a powerful modern new formula for the treatment of otic infections, Tympacaine.

The Williams & Wilkins Company

Booth 48

America's largest publisher of veterinary titles offers: Wright's "Veterinary Anesthesia" in a new edition; the new Wirth "Veterinary Clinical Diagnosis"; Smythe's "Veterinary Ophthalmology"; Monnig's "Veterinary Helminthology" in a new edition, plus many other titles of interest. A Williams & Wilkins editor will be present for discussions with prospective authors.

Wilson & Co., Inc.

Booth 44

Wilson & Co. is introducing its new 4-Paw Dog Food designed to meet the needs of veterinarians and kennel owners. 4-Paw is the latest addition to the dog food family of Wilson which features Ideal Dog Food for cats and dogs. The new 4-Paw may be mixed right from the can—saves time, money, and fuel cost.

Winthrop Laboratories

Booth 37

Winthrop Laboratories will feature their Canine Distemper Vaccine (chicken embryo). In addition, a number of outstanding synthetic pharmaceutical products including Aricyl, Demerol, Fuadin, Mebroin, Nemural, Omnadin, Pentobrocanal, pHisoHex, and Roccal will be on display.

Wyeth

Booth 40

Wyeth will feature: Equanil (meprobamate, Wyeth) to relieve hyperexcitability, hysteria, nervousness, and viciousness in dogs. Equanil has proved of great value in human medicine. It now gives equal promise in small animal practice. It relaxes emotional tension and skeletal muscle spasm—a boon to the animal, the practitioner, and the client. Sparine Hydrochloride (promazine hydrochloride, Wyeth), substitutes chemical restraint for the older methods of physical force or use of barbiturates and hypnotics. It exerts a unique effect, calming and quieting the animal without inducing stuporousness or unconsciousness, and maintains the animal in a manageable state. The animal is tranquil and cooperative, which greatly facilitates handling.

Wynkoop Horn Saw Company

Booth 49

Kyne-Saw, an electric dehorning saw, and Kyne-Snap, a new quick-release nose snap, will be featured.

• • •

The descriptions for the following exhibits and others expected were not received at press time:

Abbott Laboratories

Booth 35

American Optical Company

Booth 17

Corn Products Sales Company

Booth 83

Skuff Guard Inc.

Booth 88

Merck, Sharp & Dohme

Booth 100

Ralston-Purina Company

Booth 23

Demodex Folliculorum Studies
VI. The Internal Phase of Canine Demodectic Mange

FLEETWOOD R. KOUTZ, D.V.M., M.Sc.

Columbus, Ohio

DEMODECTIC MANGE in dogs has a long history. The causative organism, *Demodex canis*, was first found and described in 1843. Generally, the life cycle is given as a local skin involvement with the various developmental stages in the sebaceous glands and hair follicles. Over a period of years, it has been shown that there is involvement of organs other than the skin.

However, the finding of mites in the blood stream, lymph nodes, and other organs has led to the belief that there is an internal development in the life cycle of the mite.[1-5,9] The theory that follicular mange is not transmissible by direct contact but the infection occurs through the oral ingestion of mites has been advanced.[7] Others also believe that the mites are ingested and then migrate from the intestinal tract through the blood and lymph to the skin. Some workers believe that the lymph nodes act as reservoirs of infection by which the mites reach the skin and still others, that the mites make a round trip from the skin to the lymph nodes and back. But the majority[6,8] believe that the finding of mites in the blood stream is only accidental and does not play a part in the development of the life cycle. They believe that the presence of mites in the lymph nodes is only a stage in the passive carrying of the mites from the excessive skin infestation to the lymph nodes in the regions; that internal involvement is not necessary to complete the life cycle; and that those mites in the nodes and other organs never regain the skin.

It was decided to make studies of available infected dogs to determine how frequently mites occurred in their blood, how often in their lymph nodes, and how often mites would be found in the lymph nodes or internal organs of dogs showing no visible skin involvement.

In about 20 per cent of the dogs with demodectic mange, mites were found in the blood. In 1 dog, only the larval stages were found; in the others, adult forms as well as nymph and larval stages were found.

It is not uncommon to find enlarged superficial lymph nodes in those dogs infected with demodectic mange and to find the mites after sectioning, crushing, or macerating the nodes in potassium hydroxide. In order to determine the extent of mites in lymph nodes and other organs of normal-appearing dogs or those with slight skin involvement, some studies were undertaken on dogs used in surgery classes, and 10 were examined in the necropsy room. Routinely, the mandibular, cervical, prescapular, axillary, bronchial, iliac, inguinal, and mesenteric lymph nodes were excised; sections of the tongue muscle, psoas major and minor muscles, lungs, heart, liver, spleen, and kidneys were also taken. Samples of the skin over the face and the eyelids were removed, using care to avoid contamination, then washed and placed in 10 per cent potassium hydroxide. When the tissue was completely macerated, the material was centrifuged and examined for mites. Of the 10 dogs examined, 6 were negative for demodectic mites. Of the 4 other dogs, 1 with slight squamous skin lesions and showing mites before necropsy had normal lymph nodes; 1 with slight squamous lesions on the head had numerous mites in the skin and eyelids and well-formed mites in both enlarged mandibular lymph nodes but in no other nodes; 1, showing no visible skin lesions, had mites in the tongue muscles and mandibular and prescapular lymph nodes but none in the skin or eyelids; and 1 with no visible skin lesions had mites in the eyelids but none in the skin samples nor in any lymph nodes, although all the nodes were enlarged.

A brindle female Boxer, 2 years old, had an advanced case of purulent demodectic mange. While being kept for observation of the course of the disease, she became extremely weak, depressed, emaciated, and finally died. At necropsy, all the lymph nodes were greatly enlarged. The mandibular, cervical, prescapular, axillary, iliac,

From the Department of Veterinary Parasitology, College of Veterinary Medicine, Ohio State University, Columbus.

Presented before the Section on Research, Ninety-Third Annual Meeting, American Veterinary Medical Association, San Antonio, Texas, Oct. 15-18, 1956.

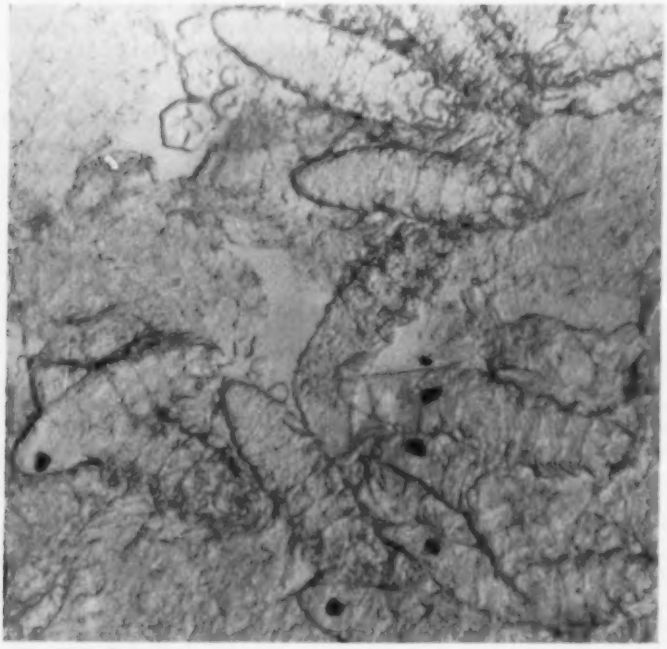
and inguinal nodes were removed. The liver, spleen, kidneys, and other organs appeared normal, except for one small necrotic spot in the hilus of the spleen. Sections were taken from each.

The lymph nodes, liver, spleen, and kidneys were macerated in potassium hydroxide solution. After being softened, parts of the lymph nodes were pressed between slides and examined, revealing numerous mites. In one microscopic field of a crushed axillary node, 39 mites with numerous ova were found (fig. 1, 3.) The small necrotic area in the spleen (fig. 2) contained mites. Numerous mites in all stages of development were found in the remaining lymph nodes; in the blood drawn shortly before the death of the animal; in the macerated spleen, liver, and kidney tissue; and in all tissues of the body that were examined. Mites were also found in the feces and urine.

A Collie, 7 months old, with squamous lesions on 90 per cent of the body, became emaciated, developed paralysis, and was euthanized. All the lymph nodes were greatly enlarged. These and other tissues were sectioned and some were macerated in potassium hydroxide. On examination, mites were found in all the lymph nodes but were only few in number. Mites were easily demonstrated in the skin sections and eyelids but none were found in the blood, kidneys, spleen, liver, or other tissue examined.

Numerous attempts have been made to transfer demodectic mange mites from diseased dogs to susceptible animals in order to study the life cycle of the mites. One mongrel, 3 months old, was kept in close confinement in a cage with a female with severe purulent-type lesions for three months. At no time did this young animal show any signs of skin lesions. Several attempts to transfer living mites from the infected female to the young pup failed, even when an area on the head was scarified and inoculated with mites. At necropsy, the pup's entire skin was removed and macerated in 10 per cent potassium hydroxide; no mites were found. The lymph nodes and other tissues were also normal.

In another attempt to transmit mites, areas on the head of a mixed Terrier were shaved and scarified. Infective material, including ova and many live mites in all stages of development, was placed on the area. After six days, there was a little re-



—Dr. H. F. Graves

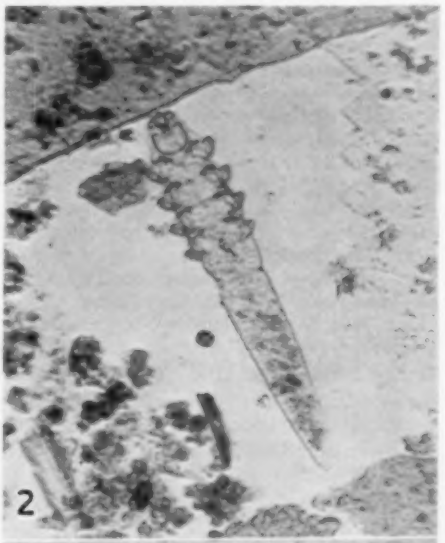
Fig. 1—Demodectic mange mites in a crushed axillary lymph node from a Boxer. High power.

action; after 14 days, the area was still slightly inflamed; at 20 days, several small blisters appeared. Repeated skin scrapings taken then and again one month after the inoculation were negative. Although regions on the head were again shaved and inoculated with more mites, repeated examinations for three months were negative.

A Boxer, 6 months old, was placed in a cage with a dog with purulent-type lesions. After playing together for several days, infected material was rubbed into the areas on the head of the Boxer and it was placed in another cage which had held an infected dog. Although this dog was kept in cages with dogs with all types of lesions, from squamous to extreme pustular types for three months, no lesions appeared. The dog was destroyed, the skin removed, and body tissues were macerated in potassium hydroxide solution but no mites were ever found.

A Cocker Spaniel, 12 weeks old, was placed in a cage with a badly infected Beagle. The pup was repeatedly clipped with the same unsterilized clippers used for clipping the older dog. Six weeks after being placed in the cage, the hair over the face of the Cocker Spaniel became thin and rough. One mite was found in a scraping of the area. After two months in the cage, the hair over the face still remained thin and several mites were found in the squamous-type lesions that developed. After three months, the hair was still thin over the head, the coat was rough, and the mandibular and prescapular lymph nodes became slightly enlarged. Scrapings from the pustules over the jaw and nose were positive for demodectic mites. Although the Cocker Spaniel was kept with the infected Beagle for eight months, the lesions disappeared within a month and no more mites could be found in the skin scrapings. After being taken from the cage, the Cocker was kept for seven more months before it was destroyed. During this time, repeated examinations did not reveal mites but the hair still remained a little thin over the head. The entire skin from the body was macerated in potassium hydroxide solution but no mites were found. Examination of the blood, lymph nodes, and other organs revealed no mites. Of the many dogs placed in close contact with infected ones, mites were transferred on this occasion only and this transfer was of a transitory nature with few mites being found.

Just how the finding of mites in all body tissues is associated with the life cycle of the mite was not determined. Probably, in all cases of demodectic mange, it would be possible to find mites in the body or lymph tissue at some time during the disease. Several times, it has been reported that mites were found in lymph nodes without evidence of involvement of the skin. In our experiment, 1 dog was found, on routine check, with mites in the tongue muscles and in several body lymph nodes but not in the skin. This does not rule out the possibility that the skin at one time had been involved and the lesions healed



—Dr. H. F. Graves

Fig. 2—Demodex canis in a macerated section of the spleen from a Boxer. High power.

Fig. 3—Demodex canis and ovum (1) from axillary lymph node of a Boxer. High power.

or that mites were in the skin but were not found.

In almost every case of demodectic mange, mites in all stages of development can be found in the fecal material if it is examined over a period of time. Mites are frequently found on routine fecal examination even before the skin involvement is suspected. In our experimental and clinical cases, whenever demodectic mites were found in the feces, they were also found in skin lesions. In many cases where the mites were found in large numbers on fecal examination, the dogs were never observed biting the lesions on the body. This suggests the possibility, as mentioned by some workers, that the original infection is through oral ingestion of mites from sources other than the skin. One of the most common places to find mites is around the edges and commissures of the lips. Probably, the mites are swallowed from the lesions around the mouth and passed out in the feces. In another experiment being conducted on the internal treatment of demodectic mange by the oral administration of diethylcarbamazine (Caricide*), many mites in all stages of development were found in the feces before treatment yet, after treatment for several days, few mites were found.

No correlation exists between the number of mites in the skin and the relatively small number in the internal organs, lymph nodes, and blood. More research must be done before all phases of the life cycle can be determined. Until the life cycle is definitely known, all treatment will be empirical and the results uncertain.

SUMMARY

1) Demodectic mange mites were found in the body lymph nodes of 2 of 10 dogs routinely examined. In 1 dog, mites were found in the tongue muscles and lymph nodes but not in the skin.

2) In 1 dog which died from the disease, demodectic mites were found in all the body tissues. They were especially prevalent in the blood, lymph nodes, liver, spleen, kidneys, feces, and urine.

3) In only one of several attempts to infect dogs by direct transmission was there any evidence of success and this was of a transitory nature.

4) At present, the role of demodectic mites in the internal organs is not known.

*Lederle Laboratories.

References

[1]Canepa, E., and da Grana, A.: Presence of *Demodex Folliculorum* in the Lymphatic Glands of Demodex-Infected Dogs. Univ. Buenos Aires Rev. Fac. Agron. y Vet., *9*, (1941): 109-114 (Biol. Abstr., *18*, (1944): 7469).

[2]El-Gindy, H.: The Presence of *Demodex Canis* in Lymphatic Glands of Dogs. J.A.V.M.A., *121*, (1952): 181-182.

[3]Guryanova, M. F., and Dulebov, A. E.: New Information on Demodecosis of Dogs and Its Treatment. Veterinariya, *29*, (1952): 29-33 (abstr. in J.A.V.M.A., *122*, (1953): 326).

[4]Kirk, H.: Demodectic Mange. Vet Rec., *61*, (1949): 394.

[5]Koutz, F. R.: *Demodex Folliculorum* Studies. III. A Survey of Clinical Cases in Dogs. J.A.V.M.A., *124*, (1954): 131-133.

[6]Lucker, J. T., and Sause, M. P.: The Occurrence of Demodectic Mites, *Demodex Folliculorum*, in the Internal Tissues and Organs of the Dog. North Am. Vet., *33*, (1952): 787-796.

[7]McKim, E. O.: Follicular Mange in Dogs. Vet. Med., *35*, (1940): 696-697.

[8]Unsworth, K.: Studies on the Clinical and Parasitological Aspects of Canine Demodectic Mange. J. Comp. Path. and Therap., *56*, (1946): 114-127.

[9]Watson, M.: Colloidal Iodine in the Treatment of Demodectic Mange. Vet. Rec., *60*, (1948): 349.

Unidentified Microfilaria in Dogs.—Microfilaria, possibly *Dipetalonema reconditum*, has been recovered from peripheral blood, and 5 unidentified adult filariids from the subcutaneous tissue, of dogs in America.—*J. Parasitol., 42, (1956): 246 (Vet. Bull. (April, 1957): Item 1158.)*

New Treatment for Lungworms.—A drug, cyanacethydrazide (Helmox), closely related to isonicotinic acid hydrazide (I.N.H.) which is used for tuberculosis, has been found effective against lungworm infections in cattle, sheep, and swine, according to the *Wall Street Journal*, May 31, 1957.

The drug is not new; this usage is. It does not kill the worms but is said to cause them to move up the bronchial tree until they can be swallowed and destroyed. It is produced by Imperial Chemical Industries, Ltd., of London, whose products are handled by Fort Dodge Laboratories, Inc.

Cattle Grubs in the Spinal Canal.—In Croatia, 35 second-stage *Hypoderma bovis* larvae were found, during meat inspection, in the epidural space in the spinal canal of a heifer.—*Vet. Bull. (March 1957): 128.*

Avian Tuberculosis in Mink—A Case Report

R. E. HALL, D.V.M., and F. WINKEL, B.S.

Madison, Wisconsin

TUBERCULOSIS of mink is occasionally encountered in the United States.[1,4] While several cases of bovine tuberculosis in mink have been recorded both in the United States and Europe,[1-5] the authors have found no references to avian tuberculosis in mink. Pertinent data with regard to a case history, symptoms, lesions, and histopathological findings of such an outbreak are presented.

CASE HISTORY

History.—From October, 1955, to January, 1956, a rancher had been losing a larger number of mink than usual. While searching for the cause, evidence of several diseases was found. One of these, tuberculosis, was found most commonly in the topaze and topaze-carrier mink, also in pastels and whites, but not in aleutions or silver blues. Some spoiled pork livers had been fed several weeks previously.

Symptoms.—In most instances, the mink showed no outward signs of illness until shortly before death. Many were off feed for a day and showed little inclination to move. Those that were lethargic for longer periods were usually emaciated. However, there were no pathognomonic signs of any one disease.

Gross Lesions.—Three typical, striking lesions were found on necropsy of the 27 mink. Whereas, in other mink diseases, only the larger lymph nodes are readily found, in these animals, a majority, if not all, of the nodes were tremendously enlarged. They were white or cream colored and firm upon excision. In a majority of mink examined, the nodes showed no encapsulation, caseation, calcification, or abscess formation. A few mink had abscesses in the cervical or mesenteric lymph nodes. When the latter ruptured, the pus in the peritoneal cavity produced a subacute, diffuse peritonitis.

The spleen was also greatly enlarged, up to 5.0 by 1.5 by 0.5 inches. White foci from 0.03 to 0.25 inch in diameter were interspersed throughout the parenchyma. They were not calcified, abscessed, or encapsulated. The spleens of 2 animals had ruptured.

The liver was also usually enlarged and studded with small, gray-white foci, rarely more than 0.06 inch in diameter. These lesions did not rise above the surface and showed no gross evidence of encapsulation, calcification, or abscess formation.

The kidneys, when involved, were greenish brown but did not appear swollen. The capsules could be removed with ease. Short, white streaks in the region of the collecting tubules were occasionally observed.

In chronically affected mink, the stomachs were usually empty. In all mink examined, the alimentary tracts were essentially normal and no gross lung or heart lesions were observed.

The brains were not examined.

Microscopic Lesions.—Lymph Node.—The normal architecture of affected lymph nodes was completely disrupted by the pathological tissue composed chiefly of epithelioid cells. Normal lymphoid tissue was evident only in a few small islands scattered throughout the node and in a narrow, incomplete margin along the subcapsular sinus. No calcification or encapsulation was evident. The epithelioid cells appeared to be the same type as those commonly found in affected livers and spleens. Occasionally necrosis was evident in the center of these lesions.

Liver.—Sheets of epthelioid cells were scattered throughout the parenchyma, usually centered around or adjacent to a central vein or other hepatic vessel (fig. 1). Occasionally, small areas of necrosis were seen in this epithelioid tissue and narrow margins of leukocytes were observed around the periphery of the lesions. Neither giant cells nor encapsulation, caseation, or calcification was observed. In most sections, blood pigment was seen scattered throughout the liver tissue.

The epithelioid cells were usually about the same size or slightly larger than the liver cells. The nuclei of both were round or oval, eccentric, and stained about the same with hematoxylin-eosin. The cytoplasm of the epithelioid cells was lavender, while that of the liver cells was pink. The cytoplasm of the epithelioid cells appeared more foamy than that of the liver cells. An occasional section showed bile duct proliferation. Rarely, a megakaryocyte was seen in an area of

Diagnostician (Hall) and bacteriologist (Winkel), Animal Disease Diagnostic Laboratory, Wisconsin State Department of Agriculture, Madison.

The authors thank W. D. Stovall, M. D., Wisconsin State Laboratory of Hygiene, Madison, for typing the organism,[6] and Dr. Joe Simon, Department of Veterinary Science, University of Wisconsin, Madison, for reviewing the histopathological sections and securing the photomicrographs.

normal liver cords. No giant cells of the Langham's type were observed.

Spleen.—The capsule was not involved. The parenchyma was almost completely replaced by sheets of epithelioid cells between which were scattered zones of lymphocytes. Collections of megakaryocytes surrounded the areas of lymphoid tissue. Megakaryocytes have frequently been observed in apparently normal spleens. An occasional section revealed separation of tissue by an accumulation of a fibrin network, edema, and necrosis.

Kidneys.—The capsules appeared normal and the glomeruli were usually not affected.

There was some dilation and degenerative changes in the tubules in the cortex, with islands of epithelioid cells scattered throughout the interstitial tissue. Necrotic centers were observed in some of the larger collections of histiocytes. One of the larger lesions exhibited a narrow layer of peripheral connective tissue, an attempt at encapsulation. No giant cells were observed in any of the sections examined.

Congestion of blood vessels and some tubular degeneration were observed in the medulla.

ANIMAL INOCULATION

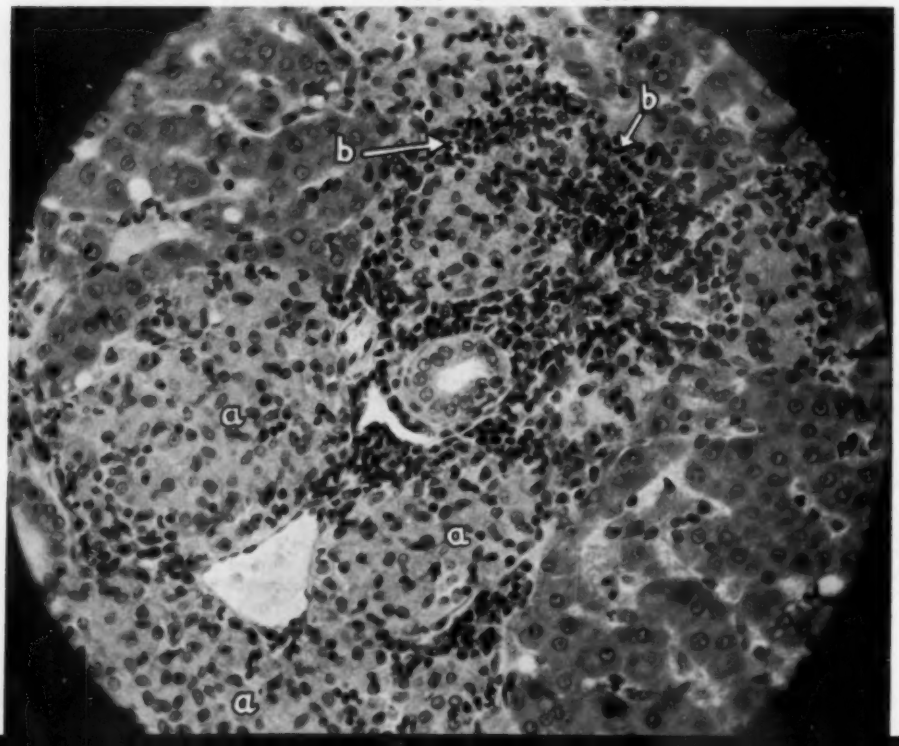
Specimens from typically diseased mink were submitted to the State of Wisconsin Laboratory of Hygiene, Madison, for diagnosis.

A rabbit, injected with a culture of acid-fast organisms obtained from the mink tissues, died in 18 days. Necropsy revealed an extensive suppurative pneumonia but no gross tuberculous lesions. Smears of lung tissue showed acid-fast bacilli. The rapid course of the disease, the pneumonia, and the presence of acid-fast bacilli in the lungs, were characteristic of the Yersin type of avian tuberculosis in rabbits.

A guinea pig, killed 44 days after it was injected with the mink material, showed abscesses in the omentum and an enlarged spleen and liver at necropsy. The lungs and kidneys appeared normal. Omental abscess material contained numerous acid-fast bacilli. On histological examination, the spleen showed multiple small tubercles in which acid-fast bacilli were seen; the mesenteric lymph node tubercles showed some central necrosis. No lesions were observed in the liver.

In 62 days, after a culture of the organism was injected into a chicken, tubercles were observed in the parenchyma of the liver and spleen and on the peritoneal surfaces at necropsy. Acid-fast organisms were observed in stained smears of the dis-

Fig. 1—Section through the liver of a mink showing typical epithelioid development (a) surrounding central vein, and some lymphocytic infiltration (b). x 300.



eased tissue. Numerous acid-fast bacilli were seen in Ziehl-Nielson stained sections of the many caseous spleen and liver tubercles.

On the basis of these animal inoculations and the growth characteristics on artificial mediums, a diagnosis of *Mycobacterium tuberculosis* var. *avian* was made.

References

[1]Gorham, John: Diseases and Parasites of Mink. Farmers Bull. 2050, 1952.

[2]Pulling, Fred B.: An Outbreak of Bovine Tuberculosis in Mink and Treatment with Rimifan. J.A.V.M.A., *121*, (Nov., 1952): 389-390.

[3]Secard, A. C.: Diseases of Fur Bearing Animals. Vet. Med., *31*, (1936): 532-549.

[4]Merck and Co.: Merck Veterinary Manual. 1st ed. Merck and Co., Rahway, N. J. (1955): 1200-1201.

[5]Ott, G. L.: Letter to the Editor. North Am. Vet., *31*, (1950): 348.

[6]Stovall, W. D., M.D., director, State Laboratory of Hygiene, Madison, Wis.: Personal communication.

Conquering Mink Diseases.—At one time, urinary calculi were the chief cause of disease loss in mink; controlling the pH of the urine has largely eliminated that loss. Yellow fat disease, the chief killer of kits in late summer, is now prevented by feeding adequate vitamin E. "Nursing sickness," once a serious disease of females nursing large litters, has been largely prevented by feeding more common salt to avoid sodium depletion. Distemper losses have been reduced by the use of the newer live-virus vaccines. Botulism, the only major disease of mink that has increased in recent years, can also be controlled by immunizing the kits each July with toxoid.—*G. R. Hartsough in Am. Fur Breeder (May, 1957): 35.*

Mucosal Disease in Australia.—A disease clinically and pathologically identical with "mucosal disease" was reported in 2 cattle, 3 and 18 months old. They were in separate herds and no other cases were observed.—*Austral. Vet. J. (March, 1957): 75.*

Therapy for Chronic Respiratory Disease.—Of ten chemotherapeutic agents tested, at the University of Massachusetts, for their inhibitory action on experimental CRD in chickens and turkeys, none had a marked effect on the course or severity of the disease. Mild infections responded somewhat to chlortetracycline, oxytetracycline, furazolidone, and magnamycin.—*Poult. Sci. (March, 1957): 383.*

No-Lesion Tuberculin Reactors.—Of 1,000 tuberculin-reacting cattle in which no lesions of tuberculosis were found at postmortem inspection in Germany, the infection was found in 50.2 per cent (86.6% by detailed gross examination, 13.4% by culture or animal inoculation). No explanation was found for the reaction in the others. Of the lesions found, 86.5 per cent were in the lungs, 12.1 per cent in mesenteric lymph nodes, and 1.4 per cent in the udder or its lymph nodes.—*Monatsh. f. Tierheilk., 8, (1956): 43.*

"Diathelic" Immunization with Milk Antibodies.—The ability of the mammary glands to rapidly produce antibodies, following the introduction of an antigen, was indicated when a culture of *Salmonella pullorum* was placed in the mouth of a calf which was then allowed to nurse two teats on a normal cow. This was repeated with 9 cows. Agglutinating antibodies appeared in these quarters as early as four and six hours after nursing. For this phenomenon, the term "diathelic" (through teat) immunization is proposed. It is suggested that, contrary to accepted beliefs, "effective absorption of antibody from the gastrointestinal tract does occur after the neonatal period; thus transmission of immunity in milk may . . . occur for the duration of nursing." It is also suggested that the value of the mammary gland for generating protective immunity may outweigh its nutritive importance.—*Campbell, Sarwar, and Petersen in Science (May 10, 1957): 932.*

During the spring seasons, the blood and milk levels of iodine in dairy cows was found, at the University of Tennessee, to increase, and there was a tendency for the iodine to be concentrated in the milk.—*J. Dai. Sci. (April, 1957): 387.*

Pantothenic Acid Reduces Toxic Effect of Streptomycin.—Pantothenic acid effectively prevented auditory impairment in rats during lengthy treatment with either streptomycin or dihydrostreptomycin. It was effective to a lesser degree in preventing vestibular disturbances in cats.—*Vet. Bull., Item 584 (Feb., 1957): 91.*

Surgery and Obstetrics
and Problems of Breeding

General Anesthesia in Birds

V. L. SANGER, D.V.M., M.S., and H. R. SMITH, D.V.M.

Wooster, Ohio

THE NEED FOR A satisfactory general anesthetic agent in birds has long been recognized. Inhalation anesthetics are accompanied by considerable risk because of the anatomical structure of the avian respiratory system.[1] Chloral hydrate,[2] sodium amytal,[3] and sodium pentobarbital,[4] have been used but results were not entirely satisfactory. Recently, the successful use of Equi-thesin,* a solution containing chloral hydrate, pentobarbital, and magnesium sulfate (drug E), in 122 different birds was reported.[5] Simultaneously a new short-acting anesthetic, Combuthal,† equal parts of sodium pentothal and sodium pentobarbital (drug C), for small animals was found to be satisfactory.[6]

This is a report on the use of these two general anesthetic agents in birds and the tissue reaction to both drugs when administered intramuscularly.

MATERIALS AND METHODS

Drug C was prepared by adding 30 ml. of sterile water to 1 Gm. of powder which provided a concentration of 0.5 gr. per milliliter; drug E was used in the concentration in which it is prepared and distributed by the manufacturer.

The recommended anesthetizing dose[5] of drug E was used. However, for drug C, 24 broilers, 4 weeks old and averaging 408 Gm., were given graded doses to determine the satisfactory anesthetizing dose. After determining this, each drug was given to 12 chicks, 1 day old; 14 broilers, five weeks old; and 12 turkeys (7 to 13 lb.) to study the induction time, depth, and duration of anesthesia and the tissue reaction to each drug.

All injections were made in the pectoral muscle with a 27-, 22-, or 20-gauge needle, respectively, for each group. The injection was made in one site, except that in turkeys the dose was divided. The injection was made as rapidly as the needle size permitted. No birds were fasted before being injected.

Control birds were injected with sterile isotonic saline solution at the rate of 1 ml. per pound of body weight.

For histological study, tissues were fixed in 10 per cent neutral formalin, sectioned at 6 μ, and stained with hematoxylin-eosin. Special stains were employed where needed.

RESULTS

After repeated trials, the dose of drug C needed to induce good surgical anesthesia in chickens was found to be 0.5 gr. per pound of body weight. There was some individual variation but both day-old and broiler-age chickens were satisfactorily anesthetized when this level of drug was used. Turkeys which weighed from 7 to 13 lb. required 1.5 gr. per pound of body weight; at the 0.5 gr. per pound rate, only a light anesthesia was produced (table 1).

In day-old chicks, surgical anesthesia was induced in two to three minutes and lasted 20 to 30 minutes; in broilers, 20 to 25 minutes were required to reach surgical anesthesia and this stage lasted 25 to 30 minutes. For turkeys, surgical anesthesia was reached in 15 to 30 minutes and lasted 50 to 60 minutes.

The recommended dose[5] of drug E was found to be satisfactory in chickens of both ages but in heavier birds, such as turkeys, the dose had to be increased from 1.1 to 1.3 ml. per pound of body weight to induce surgical anesthesia. Induction time was 15 to 20 minutes and good surgical

TABLE 1—Dose of Combuthal Required for Surgical Anesthesia of Chickens and Turkeys

No. of chickens	Age	Average weight	Dose (ml.*)	Average induction time (min.)	Duration (min.)	Death
12	1 day	45 Gm. (0.1 lb.)	0.1	2-3	20-30	1
14	5 weeks	1.2 lb.	1.2	20-25	25-30	0
Turkeys						
12	12-20 weeks	10.0 lb.	25.0	15-20	50-60	0

*1 ml. = 0.5 gr. of the drug.

From the Department of Veterinary Science, Ohio Agricultural Experiment Station, Wooster, Ohio.

*Jensen-Salsbery Laboratories, Inc.

†Abbott Laboratories.

TABLE 2—Dose of Equi-thesin Required for Surgical Anesthesia of Chickens and Turkeys

No. of chickens	Age	Average weight	Dose (ml.*)	Average induction time (min.)	Duration (min.)	Death
12	1 day	45 Gm. (0.1 lb.)	0.11	2-3	20-30	2
14	5 weeks	1.3 lb.	1.4	20-25	25-30	0
Turkeys						
12	12-30 weeks	10.0 lb.	15.0	15-20	50-60	0

*As distributed by manufacturer.

anesthesia lasted from 50 to 60 minutes (table 2).

All the chickens which were allowed to live were examined periodically for two weeks. At no time was there any sign of swelling, pain, or necrosis at the site of injection of either drug.

Some birds from each group were destroyed and the site of injection was examined. Both drugs were irritating and produced approximately the same tissue changes, except in a few instances where drug C caused more extensive hemorrhage and necrosis than drug E. After 24 hours, hemorrhage and edema were marked. At 72 to 96 hours muscle tissue was undergoing some necrosis and lesions were somewhat discolored as a result of the breakdown of hemoglobin. Discoloration was more pronounced in lesions from drug C than from drug E. There was no evidence of abscess formation. After ten days, healing occurred rapidly and by 14 days no evidence of the lesion could be seen.

HISTOPATHOLOGY

Since the histopathological changes were similar, one description will be given for both groups and differences will be shown. After 24 hours, hemorrhage, fibrin, edema, and degenerative changes were present in the tissue. Edema and fibrin were present in the interstitial spaces and caused wide separation of muscle bundles. Areas of hemorrhage were scattered throughout the interstitial spaces and petechia were also seen between muscle fibers within bundles. Muscle fibers were in various stages of degeneration including necrosis with loss of structure and function. In these areas, muscle nuclei were pyknotic, open spaces were present where cytoplasm was lost, and the architecture was distorted (fig. 1). In the adjacent tissue, which was less severely affected, muscle fibers were hyalinized, had lost their striations, appeared homogenous, and were deeply eosinophilic

Fig. 1—The pectoral muscle of a broiler 24 hours after injection with the anesthetic. Notice large fibrin clots (1), extensive hemorrhage (2), degeneration of entire muscle bundles (3), and hyalinized muscle which has retained its form (4). Fibrin strands and edema have caused separation of muscle bundles. Similar changes were caused by both drugs. H & E stain; x 65.

—*Ohio Agric. Exper. Sta.*

in staining reaction. Lymphocytes and neutrophils were infiltrating the area.

In chickens which had been injected 48 hours or longer, large fibrin clots were present between muscle bundles as well as in open spaces where muscle tissue had disappeared. Within some of these clots were large foci of erythrocyte nuclei which marked the site of extensive hemorrhage. Entire muscle bundles were undergoing necrosis. Monocytes, lymphocytes, and neutrophils were invading the area. There appeared to be an increase in fibroblasts and muscle nuclei which were present among dense networks of fine collagenous fibers. Also fibroplasia and new capillaries were developing near the edge of the lesion (fig. 2).

Phlebitis and periphlebitis (fig. 3) and thrombosis were seen in the lesions from drug E but not from drug C. In one of the latter lesions, a large nerve trunk was undergoing degeneration.

There were no gross or microscopic changes in the control chickens.

DISCUSSION

No difference between the action of the two anesthetic drugs could be observed in these studies. Both induced anesthesia in approximately the same length of time; both were well tolerated and recovery was quiet and uneventful.

There was considerable variation between birds in the dosage required to induce anesthesia and, in almost all instances, the variation was that of underdosing rather than overdosing. No cause was found for the death of the 3-day-old chicks, and it may be that they were overdosed at the recommended level.

Even though no evidence of inflammation could be seen in the living birds, both drugs caused considerable inflammation at the site of injection. On gross examination, drug C appeared to be more irritating to the tissues than drug E but on histopathological sections, the degree of change was similar, except that drug E caused thrombosis of small vessels and drug C did not. However, no ill effects followed the reac-

Fig. 2—The pectoral muscle of a broiler 120 hours after injection. Notice advanced degeneration of muscle bundles (1), as well as spaces and areas of hemorrhage (2) and areas of repair with capillary hyperplasia and fibroplasia (3). Similar changes were caused by both drugs. H & E; x 54.

—*Ohio Agric. Exper. Sta.*

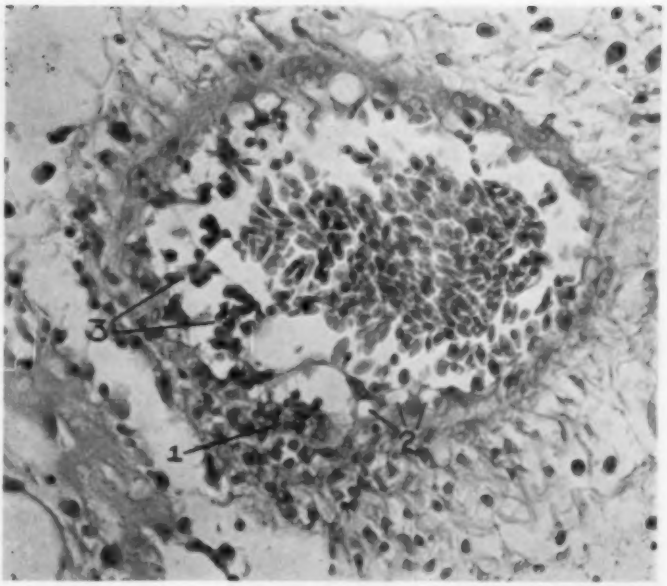


Fig. 3—Phlebitis and periphlebitis (1) with lymphocytes and monocytes invading the wall of a vein of a broiler. Notice also the hydropic degeneration of endothelial cells (2) and margination of leukocytes (3). The pectoral muscle of the broiler was injected with an anesthetic. H & E; x 447.

—*Ohio Agric. Exper. Sta.*

tion and healing was complete at the end of two weeks in both groups of birds. If a bird were to be anesthetized a second time within the two-week period, the opposite pectoral muscle should be used.

In a previous report[5] the same dosage level of drug C was used in heavy birds as in light birds. In our experience, the heavier birds required a slightly higher dosage. All the birds used in this study were healthy, domesticated birds in a good state of nutrition. There was no opportunity to use injured or exotic birds.

No attempt was made to establish the margin of safety for drug C but, in the preliminary trials, a few chickens which received 0.66 gr. per pound of body weight made a satisfactory recovery.

SUMMARY

Satisfactory general anesthesia was produced in birds by intramuscular injections of Combuthal (drug C—equal parts of sodium pentothal and sodium barbital) and Equi-thesin (drug E). Both drugs caused some local inflammation but all birds recovered satisfactorily.

The average dose of drug C for good surgical anesthesia in young chickens was 0.5 gr. per pound of body weight, but semimature turkeys required 1.5 gr. per pound of body weight.

The dose of drug E for good surgical anesthesia in smaller birds (0.1 to 2.0 lb.) was 1.1 ml. per pound of body weight but in heavier birds such as turkeys (10 lb.), the dosage had to be increased to 1.3 ml. per pound of body weight.

There was some individual variation among birds to the dosage of drugs required. The dosage levels used tended toward underdosing.

The only deaths occurred immediately after injection of the drugs; 1 in a 1-day-old chick given drug C and 2 in 1-day-old chicks given drug E. The margin of safety for drug C was not determined but a few birds which received 0.66 gr. per pound of body weight made a satisfactory recovery.

References

[1]Biester, H. E., and Schwarte, L. H.: Diseases of Poultry. 2nd ed. Iowa State College Press, Ames, 1948.

[2]Hole, N.: Chloral Hydrate as a General Anesthetic Agent for the Fowl. J. Comp. Path. and Therap., *46*, (1933): 47.

[3]Fretz, V. C.: Anesthetizing Poultry. Vet. Med., *27*, (1932): 109.

[4]Warren, D. C., and Scott, H. M.: The Time Factor in Egg Formation. Poult. Sci., *14*, (1935): 195.

[5]Gandal, C. P.: Satisfactory General Anesthesia in Birds. J.A.V.M.A., *128*, (1956): 332.

[6]Gillispie, J. M., and Magrane, W. G.: A New Anesthetic for Veterinary Use. Vet. Med., *51*, (1956): 185.

Intramedullary Fixation of the Chinchilla Tibia

This case report will serve as another reminder[1] that chinchillas and other very small animals with broken bones should not be turned away if the practitioner possesses just the ordinary equipment expected of a small animal hospital.

A young female chinchilla, weighing about 1 lb., had a transverse fracture in the proximal half of the right tibia. Intramuscular injection of 0.2 ml. of meperidine hydrochloride (Demerol) produced sufficient narcosis to permit open reduction and placement of a 1/16-inch intramedullary pin which had threads at the distal end. The incision was closed with fine silk suture and the animal made no attempt to disturb the wound or the protruding pin. By the following day, the chinchilla was hopping and running normally. Because of the slow healing that is characteristic of such fractures in some small animals, the callus was checked radiographically after four weeks. Three weeks later, when the pin was removed, recovery was complete.—*D. A. Price, D.V.M., and W. F. Juliff, D.V.M., San Angelo, Texas.*

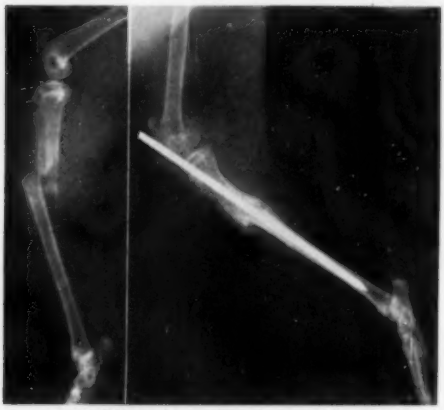


Fig. 1—Medial radiographs showing the fractured tibia in the chinchilla immediately before (left) and four weeks after (right) intramedullary pinning.

[1]Price, D. A.: Intramedullary Fixation of Femoral Fracture in a Chinchilla. J.A.V.M.A., 123 (1953): 400.

Fertility and the Age of Bulls.—After systematically testing 950 bulls in 1956, veterinarians at Colorado A. & M. College reported that the semen of the following percentages of bulls were satisfactory: bulls 12 to 15 months and those 15 to 24 months old, 79 per cent; 2 to 3 years, 88; 3 to 5 years (329 bulls), 93; 5 to 8 years, 89; over 8 years, 82 per cent. Of the 950, 88 per cent were rated as satisfactory.—*Successful Farm. (March, 1957): 188-191.*

Alterations of the Bovine Uterus

The endometria of repeat-breeding cows did not differ greatly from that of apparently normal virgin heifers; in most cases, no true differences could be detected. Endometritis was not a major cause of repeat breeding in otherwise apparently normal repeat-breeding cows. The study did not provide positive clues as to the mechanism of embryonic death.—[*J. Simon and S. H. McNutt: Histopathological Alterations of the Bovine Uterus. II. Uterine Tissue from Cows of Low Fertility. Am. J. Vet. Res., 18, (April, 1957): 241-245.*]

A New Technique for Hernial Repair in Large Animals

J. E. WION, D.V.M.

Santa Rosa, California

In this day of more and better large animal surgery, the veterinarian has several courses that can be followed in handling hernias. He can induce the client to slaughter the animal; he can use old-fashioned methods such as hernia clamps which are aesthetically unacceptable and often are completely unsatisfactory, as in a strangulated herina or one with adhesions; or he can apply modern techniques and salvage more patients, as well as enhance the prestige of the profession.

One modern method, the nylon taffeta patch technique, is here described. The illustrations show an 18-month-old heifer that had a ventral hernia resulting from an abscess located 6 inches lateral to the midline and 8 inches posterior to the umbilicus.

From an etiological standpoint, many umbilical, inguinal, and scrotal hernias are primarily hereditary in origin but others, such as ventral and diaphragmatic hernias, are due to trauma or to weakening of structures by an abscess.

Dr. Wion is a general practitioner in Santa Rosa, Calif.

Fig. 1—A ventral hernia in an 18-month-old heifer, prior to surgery.

There is some disagreement as to just when surgery should be performed. Some umbilical hernias which contain only a small amount of omentum or even a single loop of intestine correct themselves as the animal grows. Because of this, if the opening is small and is not progressively enlarging, it is well to wait until the animal is about a year old. However, if the hernial ring is large or there appears to be any danger of strangulation, early surgery is advisable.

Preoperative Care.—After the patient has been starved for 24 hours, a general anesthetic* should be administered and the animal cast and tied so that the operative site is upward. The area is then shaved, scrubbed, disinfected, and draped.

Special Materials.—An assortment of patches made of ordinary white nylon taffeta, with a narrow hem to prevent raveling, should be on hand so that the selection of the right size can be made during the operation. Medium Vetafil† suture is used to fix the patch in place. Extra heavy Vetafil suture is used in the peritoneum, muscle, and skin.

Operative Technique.—An elliptical incision is made over the hernia area, sufficiently long to permit reflecting the skin and fascia out of the way while the patch is being sutured in place. The elliptical piece of skin is removed and discarded. The subcutaneous fascia is carefully reflected from the surface of the hernial sac so it can be used later as a supporting tunic to cover the whole area. The hernial sac is then freed of any external adhesions so it can be inverted through the hernial ring into the abdominal cavity. A purse-string suture is then placed around the base of the peritoneal sac and drawn tight with the excess portion of the sack forming an internal pad inside the ring. This tends to take some of the pressure of the abdominal organs off the other sutures. Mattress sutures are placed so that the edges of the ring are brought as close to-

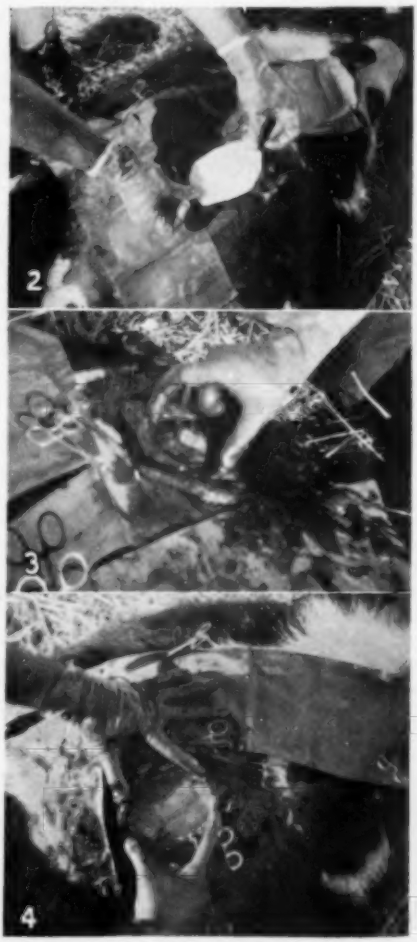


Fig. 2—The anesthetized heifer. A nylon taffeta patch is held in place over skin to show its eventual position.

Fig. 3—The purse-string suture is in place and drawn tight. Thumb and forefinger are indicating extent of the hernial ring. The hernial sac has been inverted to form a pad internal to the hernial ring.

Fig. 4—The nylon patch is sutured to abdominal tunic using continuous sutures placed ¼ inch apart.

*Equi-thesin, product of Jensen-Salsbery Laboratories, or Mag-chloral relaxant, product of Haver Glover Laboratories.

†Vetafil, a synthetic surgical suture, is imported by Dr. S. Jackson, Washington, D.C.

gether as possible, or are overlapped. Sometime apposition is enhanced by enlarging the ring anteroposteriorly.

Up to this point, the operation has been standard procedure. In some cases, as in the one illustrated here, it is impossible to obtain apposition of the edges of the ring, much less overlapping, so the edges are brought as close together as possible with sutures. Then, with all fascia reflected from the abdominal tunic, the nylon patch, of a size sufficient to cover the gap and overlap all edges approximately 2 inches, is put in place. A continuous suture, spaced every ¼ inch, is used to attach the hemmed edges of the patch to the abdominal aponeuroses. The subcutaneous fascial layers are then drawn over the patch and sutured. The skin opening is then closed with interrupted sutures.

This technique differs from the nylon mesh supportive technique in that the supportive material is sutured on the outside of the abdominal wall instead of being placed inside of the hernial ring. This method makes it possible to salvage animals when the hernial ring is large or has weak edges, and which otherwise could not have been surgically corrected.

Nymphomania in Dairy Cows.—Nymphomania is confined to cows 5 years old or younger. It tends to occur in certain breeds and families and may be a sex-linked recessive factor which is transmitted by the male. Contributing factors may include a failure of the endocrine system to adjust after parturition, a weak endocrine constitution, and a mineral imbalance.

Vaginal and cervical changes suggest intense estrogenic stimulation. The hypersecretion of estrogen stimulates the mammary gland and affects milk secretion. The pituitary and adrenal glands, but not the thyroid, are enlarged. Manual rupture of the cyst and uterine irrigation are not effective in all cases. The benefits of hormone injections vary.—*Vlaams Diergeneesk. Tijdschr. (Dec., 1956): 267.*

Gut Occlusion by Ovary in the Mare.—Rectal palpation of a mare with colic revealed a complete occlusion of the rectum about 70 cm. from the anus. At necropsy, the left ovary, which was 18 cm. in diameter and filled with blood clots, was found to have passed to the right under the rectum, then upward and to the left through the lacerated mesorectum, completely strangulating the rectum. Anterior to the constriction, the gut was filled and markedly congested.—*Vlaams Diergeneesk. Tijdschr. (Nov., 1956): 235.*

Prevention of Postoperative Adhesions.—After traumatic peritonitis was produced in dogs, the intravenous injection of streptokinase or a mixture of streptokinase and a human plasminogen preparation, prevented or modified the development of postoperative adhesions.—*Proc. Soc. Exptl. Biol. and Med., 90, (1955): 1-4.*

Ultra short-acting barbiturates, used intraperitoneally in 131 pigs in Germany, produced satisfactory anesthesia with no signs of peritoneal irritation.—*Vet. Bull. (April, 1957): Item 1250.*

Inseminating Mosquitoes.—Mosquito colonies are sometimes difficult to maintain in cages. Since the female mantid is known to often eat the head of the male prior to or during copulation, thus destroying a nerve ganglion which inhibits the act, a similar procedure was perfected with decapitated male mosquitoes and anesthetized females, controlled manually under a stereomicroscope. When the apexes of the two abdomens were brought in contact, insemination usually occurred within a few seconds. The fertilized eggs may be kept for months and the colonies thus maintained.—*Science (April 19, 1957): 745.*

Chickens Thrive Without a Crop.—The surgical removal of the crop of young chickens, at Rutgers University, did not interfere with their feed consumption, growth, or their later egg production. No regeneration of the crop occurred. These findings are contrary to some previous reports.—*Poult. Sci. (March, 1957): 345.*

Hemorrhages in Estrogen-Treated Dogs.—Hemorrhages, chiefly in the digestive and urinary systems, were found in 6 dogs which died five to 17 days after being injected intramuscularly with estradiol benzoate—1.5 to 7.5 mg./kg. of body weight for three to five days.—*Vet. Bull., Item 628 (Feb., 1957): 98.*

Artificial Insemination in Swine

JOHN AAMDAL and IVAR HÖGSET, V.S.

Oslo, Norway

ARTIFICIAL insemination (AI) in swine on an experimental basis is described by several authors.[2,5,7,8,12] As far as we know, its commercial use was discussed for the first time at the annual congress of the British Veterinary Association in 1956.[9] In this report, the pregnancies achieved by the two operating AI centers for pigs were low —24 and 14 per cent.

Our first experiment with AI in pigs started three years ago[1] and, early in 1956, our first field trial was started. At present, four AI centers for pigs are operating and about 5,000 inseminations have been carried out.

MATERIALS AND METHODS

The Dummy Sow.—A dummy sow (fig. 1) is used for collecting semen. The frame is made of ¾-inch galvanized iron tubing, stuffed to a proper shape and covered with plastic cloth, on top of which is a canvas covering which may be changed after each collection of semen.

The hindlegs of the dummy sow may be adjusted according to the height of the boar being used. Seen from behind, the dummy sow is asymmetrical, the left side being lower than the right, so that the artificial vagina can be held in position by pushing it against the medial surface of the left side.

The hindlegs of the dummy sow are far enough forward to make room for holding the vagina behind the hindlegs from the right side (fig. 2). If held in front of the hindlegs, the operator may be hurt by the forefeet of the boar.

The dummy sow is fixed to a light wooden platform so that the boar keeps it in place by means of his own weight. The hindmost part of the platform is covered by a rubber mat so that the boar will stand steady during the collection of semen.

Semen Collection.—It is not difficult to get a mature, healthy boar to serve a dummy sow and to use an artificial vagina such as is used for bulls. In order to obtain sufficient vaginal pressure, the vagina is coupled onto an air pump and an even pressure is applied with no pulsating movement. The vagina is lubricated with sterile vaseline.

The ejaculated semen of a boar consists of three fractions: a prespermal fluid, a sperm-rich fraction, and a sperm-poor fraction. In the third fraction, there is a great deal of gelatinous material which must be removed by filtering as soon as possible to prevent coagulation of the entire specimen.

The amount of the total specimen, the amount of gelatinous material, density of sperm per cubic millimeter, and the total number of sperm in the whole specimen from the 3 boars which have been used is shown (table 1).

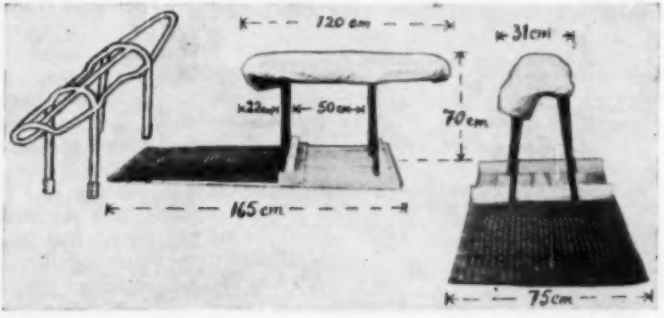


Fig. 1 (Left to right)—The frame of the dummy sow, the side view of a ready-to-use dummy sow, and the dummy sow seen from behind. For the operator working on the right side, it would be still more convenient if the right hindleg of the dummy sow were placed another 20 cm. forward.

Fig. 2—Collecting semen from a boar.

From the Institute of Animal Breeding, Genetics, and Nutrition, Veterinary College of Norway, Oslo.

This investigation was financed by the Agricultural Research Council of Norway.

The authors thank Per Slagsvold, head, Institute of Animal Breeding, Genetics, and Nutrition, for the time spent at his institution; Leo Giezendanner for doing the statistical work; and Odd Barkald for the photographic work.

TABLE 1—Volume and Density of Boar Semen

Boar No.	No. of examined specimens	Total specimen (cc.)	After gelatinous material removed (cc.)	Density (1,000/cmm.)	Gelatinous material (cc.)	Gelatinous material in whole specimen	Total No. sperm in specimen (in billions)
A	34	293	225	228.4	68	23.2%	648.9
B	28	271	205	229.6	66	24.3%	470.7
C	29	214	173	256.6	41	19.2%	446.9
Mean	91	261	202	261.5	59	22.6%	538.2

Only unfractioned semen has been used for inseminations. Some experiments have been performed with fractioned semen but it seemed to be of no advantage. The density of sperm and the volumes in the different fractions of the semen from the 3 boars is shown (table 2). The pH in the total specimen and the different fractions of boar semen is also shown (table 3).

Semen has been collected from these 3 boars every second or third day. It has been stated that a boar may endure collection of semen at 48-hour intervals[9] but boars, as other animals, are subject to great individual variations. Experience has shown that some boars, used for about one year, may endure semen collection every other day but most of them can be used only twice a week. If a boar is used too much, the density, quantity, and quality of the semen are usually decreased.

PREPARATION OF SEMEN AND INSEMINATION

Dilution of Boar Semen.—Through the years, various diluents have been tried for bull semen; many of these have also been tried for boar semen. During the experiments at this laboratory, the following diluents have been tried at various temperatures: (1) phosphate diluter,[4] (2) skimmed milk and milk powder,[12] (3) glycine-egg yolk diluter,[10] and (4) sodium citrate-egg yolk diluter.[11]

TABLE 2—Density of Fractioned Boar Semen

Boar No.	No. of examined specimens	Volume (cc.)	No. of sperm (1,000/cmm.)
	Fraction 1 and 2*		
A	24	116	341.5
B	20	111	304.2
C	17	110	343.4
Mean	61	110	329.8
	Fraction 3*		
A	22	109	75.8
B	20	94	46.0
C	17	73	61.8
Mean	59	92	60.9

*Fractions 1 and 2=prespermal and sperm-rich fractions; fraction 3=sperm-poor fraction.

Of these diluents, the best storage has been experienced with a diluent consisting of 3 per cent of sodium citrate plus 30 per cent of egg yolk at a storage temperature of 15 to 20 C. As this temperature is also highly suitable for the growth of bacilli, antibiotics are added at the rate of 1,000,000 I.U. of penicillin and 1 Gm. of dihydrostreptomycin per 1,000 ml. sodium citrate.

The microscopic determination of the quality of the semen may best be made by means of a phase contrast microscope (x 200). The temperature on the object table should be 38 to 40 C. Furthermore, the sperm need three to five minutes to reach maximum motility.

The number of living sperm in diluted semen at different times after collection are indicated (table 4 and graph 1). Using sodium citrate and egg yolk as a diluent, it is easy to observe the single sperm with the microscope. As regards motility, activity, or the impression of quality as a whole, semen stored for 24 hours often looks just as good as fresh semen.

Dilution Rate.—In field trials, an average dilution rate of 1:10 was used in 350 of the 451 inseminations (53 billion sperm per dose), and in about 100 inseminations the average dilution rate was 1:5 (100 billion sperm per dose).

Insemination Equipment.—The cervix of the sow is long and the lumen is curved in the cranial part and so narrow that it is impossible to pass any kind of an instrument through it (fig. 3).

In order to squeeze the semen into the body of the uterus, an apparatus has been developed which stops the cervix so that

TABLE 3—The pH of Fractioned Boar Semen

Boar No.	No. of examined specimens	Total	No. of examined specimens	Fractions 1 and 2*	No. of examined specimens	Fraction 3*	Difference in pH (1 and 2-3)
A	5	7.58	10	7.54	11	7.88	0.34
B	5	7.60	13	7.55	11	7.72	0.17
C	5	7.46	7	7.43	6	7.63	0.20
Mean	15	7.55	30	7.76	28	7.76	0.24

*Fractions 1 and 2=prespermal and sperm-rich fractions; fraction 3=sperm-poor fraction.

TABLE 4—The Percentage of Living Sperm in Diluted Semen from 3 Boars After a Storage of 0, 24, 48, 72, 96, and 120 Hours at a Temperature of 15 to 20 C.*

Boar No.	No. spec. exam.	0 hr.	No. spec. exam.	24 hr.	No. spec. exam.	48 hr.	No. spec. exam.	72 hr.	No. spec. exam.	96 hr.	No. spec. exam.	120 hr.
A	30	80.5	18	61.4	20	36.3	17	15.1	10	7.1	6	1.3
B	28	77.7	18	61.9	21	31.5	15	17.0	8	4.6	4	2.5
C	25	79.2	22	59.5	16	43.4	10	16.5	3	3.3	1	0.0
Mean	83	79.2	58	60.9	57	36.5	42	16.1	21	5.6	11	1.6

Diluent—3 per cent sodium citrate plus 30 per cent egg yolk, added 1,000,000 I.U. of penicillin per 1,000 ml. of sodium citrate.

*The percentage of living sperm is estimated by microscopic examination.

the semen does not flow back into vagina (fig. 4). The equipment consists of a plastic tube about 50 cm. long with a diameter of 7 to 8 mm. About 2 cm. from the tip, a plastic balloon (diam. 4 cm.) is fixed to stop the cervical canal. The balloon is inflated by means of a pump.

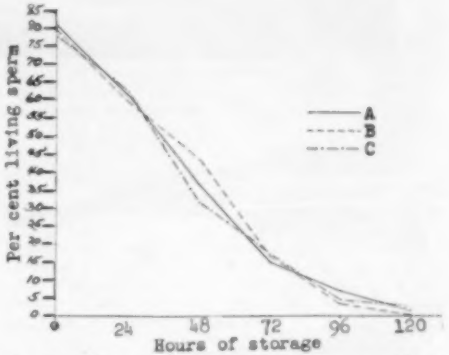
The 150-cc. plastic bottle, also used for transportation of semen (fig. 5), is coupled to the plastic tube by means of a rubber connecting piece with attached head.

The equipment can be boiled and may be used several times.

Insemination Technique.—Both the plastic tube and balloon should be lubricated with liquid paraffin and the tube pushed as far into cervix as possible (fig. 6). The balloon is then fully inflated, the semen bottle is coupled to the plastic tube, and the semen slowly injected. In case the semen leaks out through the vagina, the balloon must be deflated, the tube pushed further into the cervix, and the balloon once more inflated.

The equipment is made of flexible material so it can be easily used in a pen without the sow being held.

Insemination should first be practiced on excised organs and, later, on sows to be slaughtered. If a mixture of coal and water is used for the insemination, it is possible to check the result after the sow has been slaughtered. The equipment has functioned satisfactorily, and properly depositing the semen seems to offer no practical difficulties.



Graph 1—The percentage of living sperm in diluted semen from 3 boars after a storage of 0, 24, 48, 72, 96, and 120 hours at a temperature of 15 to 20 C. The percentage is estimated by microscopic examination.

Shipment of Boar Semen.—The semen often has to be sent over relatively long distances to the practicing veterinarians. In this field trial, semen was sent by bus and train as far as 250 kilometers or by air as far as 500 kilometers. The time in transit has been between two and eight hours.

Optimal Time for Insemination.—The length of estrus in sows has been found to vary with the breed.[2] The mean length of estrus in Large White sows was 48 hours

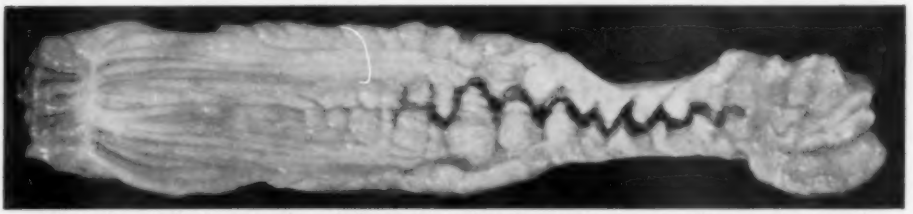


Fig. 3—Longitudinal section through the vagina and uterine cervix of a sow. The curved course of the cervical canal is marked with stain.

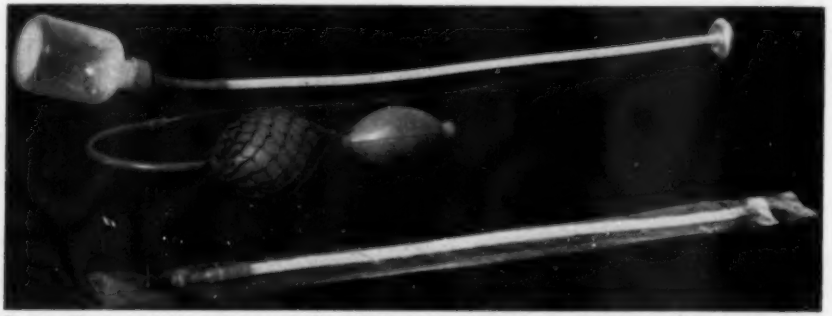


Fig. 4—The insemination equipment. The plastic semen bottle is attached to the insemination tube. The balloon on the tip of the tube is inflated from the rubber pump. A ready-to-use insemination tube, sterilized and covered with a plastic stocking, is shown below.

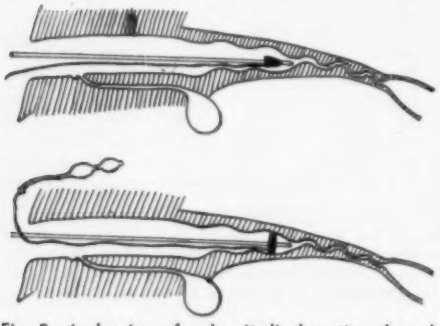


Fig. 5—A drawing of a longitudinal section through the genital organs of a sow with the insemination tube pushed as far as possible into the cervical canal. Below, the balloon is inflated.

and in Large Black, 60 hours. Ovulation occurred about the eighteenth to the thirty-sixth hour of estrus in Large White and from the forty-second to the fifty-fourth hour in Large Black sows. The same percentage of pregnancy was obtained by mating at zero, 12, and 24 hours after onset of estrus in Large White, and at zero, 12, 24, and 36 hours in Large Black, sows. At later matings, the pregnancy rate was much lower.

Sows and gilts show signs, such as reddening and swelling of the vulva, two to three days before estrus. In our preliminary investigations with Norwegian Landrace sows, these signs varied but usually started three to four days before estrus. Upon slaughtering, it was found ovulation occurred between the twelfth and twenty-seventh hour after onset of estrus.

We have endeavored to carry out the inseminations within the first 24 hours after onset of estrus but, in many cases, shipping difficulties have prevented this.

As a rule, in direct breeding, the sow is taken to the boar on the sixth day after weaning but not all sows are in heat on that day.

ORGANIZATION FOR ARTIFICIAL INSEMINATION OF SWINE IN NORWAY

Almost all inseminations in cattle in Norway are carried out by veterinarians in practice, since they can do it most economically and satisfactorily. In the insemination of swine, the same is true.

The boars used have been stabled in bull AI centers and the boar semen has been sent to the veterinarians simultaneously with the bull semen.

TABLE 5—Inseminations of Sows on Farms to Aug. 1, 1956, Using 150 to 200 ml. of Diluted Semen Containing 41 to 100 Billion Sperm per Dose

Age of semen (hr.)	No. inseminated	No. pregnant	Per cent pregnant
By two veterinarians from the college			
3 to 8	38	27	71.1
8 to 12	2	1	50.0
18 to 30	9	7	77.8
Over 30	8	5	62.5
Total	57	40	70.2
By 38 practicing veterinarians up to 500 kilometers (312 mi.) distant			
3 to 8	133	85	63.9
8 to 12	201	111	55.2
18 to 30	28	15	53.6
Over 30	10	5	50.0
Not stated	22	12	54.5
Total	394	228	57.9
Total—both groups			
3 to 8	171	112	65.5
8 to 12	203	112	55.2
18 to 30	37	22	59.5
Over 30	18	10	55.6
Not stated	22	12	54.5
Total	451	268	59.4
Single insemination	406	239	58.7
Two or three inseminations	45	29	64.4

TABLE 6—Number of Pigs per Litter and Number of Abortions

No. inseminated (table 3)	No. of inseminations	No. of pregnancies	No. of litters farrowed	No. pigs	No. pigs per litter	No. of abortions	No. slaughtered when pregnant	No. with litter size unknown
406	451	268	255	2,532	9.93±0.24 δ=3.867	7	4	2

The demand for artificial insemination of swine in Norway is considerable because of the many small herds where sows, as a rule, have to be transported long distances to breeding boars. At present, four AI centers are operating with boars and a total of about 5,000 inseminations have been carried out.

To keep a boar for heat testing in small herds is expensive; therefore, the farmer has to recognize the heat periods in his sows if he is to use artificial insemination. If he is well informed about the heat signs and the optimal time for insemination, the conception rate should increase.

RESULTS

Exact information about the results of artificial insemination in swine is obtained by questionnaires in which the farmer reports whether the sow became pregnant, if she farrowed, how many pigs she had, whether all were normal, and their weight at birth and at 21 days of age.

The results of insemination obtained by two veterinary surgeons from the Veterinary College and by 38 veterinary surgeons in practice are shown (table 5). The conception rate from the Veterinary College is higher and the reason may be lack of experience by the practitioners.

Estrus was checked by the farmers and the animals consisted of sows and gilts taken at random.

The number of pigs, the litter size, and the number of abortions are shown (table 6), as is the fertility of the 3 boars which produced the semen (table 7).

Some authors have found a great difference in the number of sows which do not return for service and the number which farrowed, but they gave no explanation for that difference. In natural mating also, sows and gilts fail to return to heat without being pregnant.

In this study, only 7 sows which were supposedly pregnant did not farrow.

TABLE 7—Fertility of the Different Boars

Boar No.	No. of inseminations	No. of pregnancies
A	251	149
B	125	69
C	75	49

The difference in fertility is not significant.

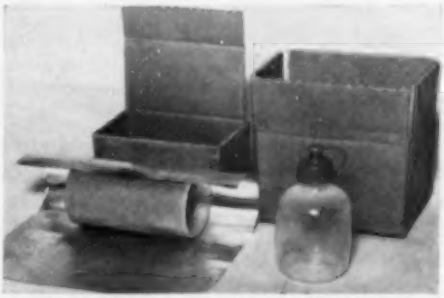


Fig. 6—Packing material for shipment of boar semen. The plastic bottles are put into cardboard cylinders, wrapped in aluminum foil, and packed in corrugated cardboard boxes. This way of packing gives good protection against changes in temperature. As a precaution in the wintertime, the semen packages must be kept in heated cabins (15 to 20 C.) during transportation.

SUMMARY

A method of performing artificial insemination in swine in Norway is described.

The dummy sow, made of galvanized iron tubing, was stuffed and covered with changeable canvas. The artificial vagina used was of the same type used for bulls.

The semen diluter used consists of 3 per cent of sodium citrate plus 30 per cent of egg yolk with 1,000,000 I.U. of penicillin and 1 Gm. of dihydrostreptomycin added per 1,000 ml. The average dilution rate has been 1:10. The diluted semen is stored at a temperature of 15 to 20 C.

Of 451 inseminations, using semen stored for three to 60 hours, 59.4 per cent resulted in pregnancy and in an average of 9.93 pigs per litter.

The new type of insemination equipment consists of a plastic tube about 50 cm. long and 8 mm. in diameter, with an inflatable plastic balloon 4 cm. in diameter, 2 cm. from the tip of the tube, to plug the cervi-

cal canal and to prevent the semen from flowing back into the vagina.

A flexible plastic bottle was used both as the semen container during transportation and, when coupled onto the insemination tube, as the insemination syringe.

The farmers checked the estrus of the sows and ordered the insemination.

References

[1]Aamdal, J.: Contribution to the Discussion of Polge's Paper. Third Internat. Cong. Anim. Reproduction, Cambridge, 1956.

[2]Burger, J. F.: Sex Physiology of Pigs. Onderstepoort J. Vet. Res. Suppl. 2, (1952): 218.

[3]Ito, S., Niwa, T., Kudo, A., and Mizuho, A.: Studies on Artificial Insemination in Pigs. II. Observations on the Semen and Its Storage. Res. Bull. Zootech. Exper. Sta. (Chiba), *55*, 1948; Anim. Breed. (abstr.), *19*, (1951): 757.

[4]Lardy, H. A., and Phillips, P. H.: Preservation of Spermatozoa. Proc. Am. Soc. Anim. Prod. (1939): 219-221.

[5]McKenzie, F. F.: A Method for the Collection of Boar Semen. J.A.V.M.A., *78*, (1931): 244-246.

[6]McKenzie, F. F., Miller, J. C., and Bauguess, L. C.: The Reproductive Organs and Semen of the Boar. Missouri Sta. Res. Bull. 279, (1938): 5.

[7]Milovanov, V.: Artificial Insemination of Livestock (Moscow). Anim. Breed. (abstr.), *2*, (1934): 96.

[8]Polge, C.: Artificial Insemination in Pigs. Vet. Rec., *68*, (1956): 62-76.

[9]Polge, C., and Rowson, L. E.: The Practical Application of Artificial Insemination in Pig Breeding. Vet Rec., *68*, (1956):

[10]Roy, A.: Storage of Boar and Stallion Spermatozoa in Glycine-Eggyolk Medium. Vet. Rec., *67*, (1955): 330-331.

[11]Salisbury, G. W., Fuller, H. K., and Willett, E. L.: Preservation of Bovine Spermatozoa in Yolk-Citrate Diluent and Field Results from Its Use. J. Dai. Sci., *24*, (1941): 905-910.

[12]Thacker, D. L., and Almquist, J. O.: Diluters for Bovine Semen. I. Fertility and Motility of Bovine Spermatozoa in Boiled Milk. J. Dai. Sci., *36*, (1953): 173-180.

[13]Wiggins, E. L., Grummer, R. H., and Casida, L. E.: Minimal Volume of Semen and Number of Sperm for Fertility in Artificial Insemination of Swine. J. Anim. Sci., *10*, (1951): 138-143.

Monorchidism in a Horse

During surgery for cryptorchidism, the left testicle of a 2-year-old stallion could not be located. On necropsy, the testicle and other genital organs on the right side were normal but the left testicle and epididymis were completely missing.—*Nord. Vet.-med., Jan., 1957.*

[Monorchidism may not be rare in horses. In practice, when the gubernaculum testes could not be readily found with two fingers passed through the inguinal canal of yearlings, the other testicle was removed and the colt allowed to mature. Two such animals never did develop signs of cryptorchidism. In those which did, the cryptorchid testicle was later easily removed by laparotomy through the flank.—W.A.A.]

Treatment of Cryptorchism in Man.—Many physicians recommend hormone therapy (usually chorionic gonadotropin three times a week for eight weeks and repeated after a month if necessary) when boys with undescended testicles are 8 years old or younger. If not successful, surgery is advised. These practices are questioned. Several observers report that the testicle usually descends spontaneously between 11 and 14 or even 15 years of age, unless mechanically retained; therefore, treatment is seldom necessary and it could be harmful. One observer states that if his patients had been operated on before 11 years of age, 232 useless and detrimental procedures would have been performed.—*J.Am.M.A. (Feb. 23, 1957): 626.*

Hyaluronidase to Reduce Edema.—Because of marked edema and hemorrhage of the limb distal to a badly compounded fracture at the distal third of the fibula and tibia, in a young man, 30 cc. of isotonic sodium chloride solution containing 3,000 U.S.P. units of hyaluronidase was injected at multiple sites within the dermis and muscle. Within 45 minutes, the size of the extremity had been reduced so that closure of the wound was possible. This aided return of an adequate circulation where it had been jeopardized by tissue pressure.—*J.Am.M.A. (April 15, 1957): 1358.*

Female pseudohermaphroditism is reported in an infant born after the mother had been given methyltestosterone during pregnancy. Starting eight weeks after conception, the mother had taken 10 mg. of the drug twice daily, at intervals, because of alopecia. The total drug consumed was 1.5 Gm. The baby was normal otherwise.—*Proc. Mayo Clinic (Jan. 23, 1957): 41.*

In 1956, cows artificially inseminated totaled 5,762,656 in 673,970 herds, an increase of 6.5 per cent over 1955.—*A. I. Digest (May, 1956): 3.*

Nutrition and *Streptococcus Agalactiae* Activity in Milk

W. D. POUNDEN, D.V.M., Ph.D.; N. A. FRANK, M.S.;
R. W. BROWN, V.M.D., Ph.D.; R. K. SCHERER, A.B.

Wooster, Ohio

NUMEROUS HERDS of dairy cows have mastitis problems for which explanations, based on present concepts, are not available. In a herd where *Streptococcus agalactiae* infection was common, half of the cows were observed by one of us (W. D. P) to develop mastitis during the December to January period two winters in succession, in the absence of factors generally considered to be stimulators of mastitis attacks, including personnel changes and faulty milking practices. Attacks were relatively infrequent except for these special periods. The roughage fed to the cows for approximately two months prior to the increased numbers of mastitis attacks left much to be desired, but other possible explanations for the mastitis were lacking.

Also, what can be the explanation for the increased number of attacks of mastitis reported to us to occur in a large western dairy herd when the feeding of fresh green forage begins each spring? Or, how explain why over half of the cows in two neighboring herds, which grazed on the banks of the same river for several years, simultaneously developed mastitis during the earlier weeks on pasture in one year? The situation in the latter herds is somewhat similar to that in an experimental herd in New Jersey where in some years there was an unusual increase in attacks in the earlier months on pasture.[2]

In other herds in which attacks were more prevalent during certain periods, we have found explanations in some mismanagement detail; for example, a change in milking hours or the careless milking when personnel hurried through the chores on week ends. Yet, such practices in the same herds on many other occasions did not result in attacks. Why?

Experiences like these stimulated work on methods that might indicate differences between cows and between herds in resistance to attacks and on the reasons for the differences, if they existed.

RESISTANCE OF MILK TO INFECTION

Testing the milk for its ability to resist the activity of organisms associated with mastitis appeared logical. Most, if not all, such organisms must be capable of growing in milk. Also, there are indications that some, like *Str. agalactiae*, may produce irritants from milk as one means of their attack.[11]

Various *in vitro* mastitis tests are based on the ability of organisms to multiply in incubated milk samples. Their presence is then determined by microscopic examination or by agents that indicate the extent of the changes in the milk produced by the organisms. The Hotis test[1] is one of the latter. Experience with this test, including use in diagnostic work[5] and in study of natural infections,[10] caused us to conclude that some of the marked variations encountered might well be explained by differences in the suitability of the milk as a medium for the organisms or, stated differently, by differences in resistance of the milk to the activity of the bacteria.

The earlier experiments were confined to *Str. agalactiae*, with the activity of the organism in milk samples being compared by measuring acid production during a 24-hour time interval.[4,9] Differences were observed in averages in acid production obtained for samples (1) from various herds, (2) from individual cows, and (3) from different quarters on the same cow. This is in contrast to variations in milk samples as measured by rates of increase in numbers of the streptococci.[3,6] Acid production in samples collected repeatedly from a limited number of cows on different feeds indicated some relationships between the feed and the activity of the organisms. More extensive experiments supported this finding but, at the same time, have raised numerous questions.[7,8]

Experiments on about 50 cows indicated that satisfactory levels of resistance of

From the Department of Veterinary Science, Ohio Agricultural Experiment Station, Wooster (Pounden, Frank); and the Animal Disease and Parasite Research Division, ARS, U. S. Department of Agriculture, Beltsville, Md. (Brown, Scherer). Prepared in cooperation with the American Association of Veterinary Nutritionists.

Grateful acknowledgment is made for the assistance of the Department of Dairy Science, Ohio Agricultural Experiment Station, Wooster, and of the Dairy Production Branch, Agricultural Research Service, Beltsville, Md.

milk samples to the activity of *Str. agalactiae* were maintained with difficulty when the cows were on rations restricted to hay and grain. This difficulty was seldom experienced when milk production was low, regardless of the quality of the hay fed. However, low milk production, when apparently due to the improper letdown of milk, seemed to be associated with low resistance of milk samples.

Resistance to the activity of *Str. agalactiae* of milk samples from 17 cows on rations of hay, grain, and silage (mostly forage crop silage) was found to be relatively good throughout the winter feeding period, even when milk production was reasonably high. The same was true in some smaller groups fed heavily for shorter periods on this kind of silage, and in others fed moderate quantities of corn silage. In one exception to this, a rather severe loss in resistance of milk was recorded during the first few weeks after corn silage was added to a hay and grain ration that had been fed continuously for 18 months; however, the former resistance level was recovered and improved upon within a few weeks.

Changes from pasture to rations containing silage were never accompanied by losses in resistance of the milk samples to the streptococcic activity in any of the several years that data were collected, and in some instances gains were recorded. On the other hand, changes from winter rations to the pasture frequently were associated with resistance losses. One year, in the samples from approximately 40 cows, the resistance loss was more than 30 per cent between the weekly test average for the last prepasture month and that for the second month on pasture. The usual trend was for the resistance levels of the milk to improve somewhat after the earlier drop and remain fairly stable during the remainder of the pasture season. In one exception, resistance losses again occurred in September when the pastures had improved due to rains. Interestingly enough, little or no difference in resistance levels was observed between the samples collected from cows on pastures composed mostly of legumes and those consisting mainly of grasses.

It must be realized that these were *in vitro* tests and did not constitute direct challenge to cows or their udders. The evidence of a relationship between these test results and actual resistance of udders to the disease associated with *Str. agalactiae* is limited. It seems significant, however, that the circumstances under which variations in resistance of milk samples occurred in experimental herds parallel those under which clinical manifestations of mastitis associated with *Str. agalactiae* often are encountered in the field. Meager information indicates that some of the less pathogenic micrococci may have similar relationships, but not the hemolytic varieties frequently encountered in mastitis.

It has often been stated that the incidence of *Str. agalactiae* infection has greatly decreased in recent years, particularly in areas where there has been extensive improvement in forage crops and in methods of harvesting them. Is it not possible that the emphasis placed in recent years on the provision of adequate quantities of roughages of good quality, particularly forage crop silages in dairy herd rations, may have had something to do with this reduction?

Such a forage-feeding program might help to avoid a weakening of the resistance of milk to the activity of *Str. agalactiae* during barn-feeding seasons. It might create sufficiently high resistance levels to provide a buffer against a significant drop occurring when animals are first turned out to pasture or switched to fresh green feed. Roughage programs of this type generally are economically advisable and to recommend them does not call for purchases of special drugs or mineral mixtures which might even prove detrimental.

References

[1]Hotis, R. P., and Miller, W. T.: A Simple Method for Detecting Mastitis Streptococci in Milk. U.S.D.A. Cir. 400, 1936.

[2]Murphy, James, M.: The Genesis of Bovine Udder Infection and Mastitis. IV. The Occurrence of Mastitis in a Cow Population, and the Relationship of Factors Other Than Age to Mastitis and to Streptococcal *(Str. Agalactiae)* Infection. Proc. U.S. Livestock San. A., (1948): 63-87.

[3]Murphy, James, M., and Stuart, O. M.: Studies on the Growth *in Vitro* of a Strain of *Streptococcus Agalactiae* in Milk from Infected and Uninfected Cows. Cornell Vet., *42,* (1952): 537-558.

[4]Pounden, W. D.: Variations in the Resistance of Milk to the Activity of *Streptococcus Agalactiae.* Am. J. Vet. Res., *13,* (1952): 491-499.

[5]Pounden, W. D., Beach, B. A., and Hastings, E. G.: Some Observations on the Control of Bovine Mastitis. J.A.V.M.A., *99,* (1941): 196-197.

[6]Pounden, W. D., and Frank, N. A.: A Comparison of Increase in Numbers and Acid Pro-

duction as Measures of Resistance of Milk to *Streptococcus Agalactiae*. Cornell Vet., *44*, (1954): 437-441.

[7]Pounden, W. D., Frank, N. A., and Krauss, W. C.: The Resistance of Milk Samples to the Activity of *Streptococcus Agalactiae* as Affected by Pasture. Am. J. Vet. Res., *63*, (1956): 227-230.

[8]Pounden, W. D., Frank, N. A., Brown, R. W., and Scherer, R. K.: The Resistance of Milk Samples to the Activity of *Streptococcus Agalactiae* as Affected by Feeding Silage. Am. J. Vet. Res., *63*, (1956): 231-234.

[9]Pounden, W. D., Hibbs, J. W., and Edgington, B. H.: The Activity of *Streptococcus Agalactiae* in Milk Possibly Influenced by the Ration. Am. J. Vet. Res., *13*, (1952): 486-490.

[10]Pounden, W. D., and Johnson, M. M.: The Influence of an Udder Coccus upon the Activity of Mastitis Streptococci in Milk. Am. J. Vet. Res., *4*, (1941): 317-318.

[11]Pounden, W. D., and Zehner, C. E.: An Irritant for Udder Tissues Produced by Mastitis Streptococci in Milk. Cornell Vet., *31*, (1941): 382-388.

Rumen Inoculation and Growth of Calves.—Dairy calves, taken from their dams at birth and placed in individual stalls, at the Virginia Agricultural Experiment Station, were hand-fed colostrum for three days, then fed whole milk (1 lb./10 lb. body wt.) until 60 days old. All were fed hay free choice, while half (16) were given a simple grain ration free choice, and half were given a restricted ration of grain. Half (8) of each group were inoculated with fresh cud at 5, 10, 15, and 21 days of age. Rumen inoculation had no significant effect on the gain or growth of either group nor did it seem to affect the development of the reticulorumen.—*J. Dai. Sci. (April, 1957): 363.*

Extracting Protein from Leaves.—Because of the inefficiency of the series of transfers of leaf protein to seed protein to animal protein to man, scientists have for years sought a more direct method of using the protein in grasses and other leafy material by separating it from the fibrous fractions. They have succeeded in making a product that has 30 to 60 per cent crude protein and less than 5 per cent crude fiber but feeding results with such products have been disappointing. Limiting factors seem to be the loss of the amino acid lysine and the presence of some growth-depressant fraction.—*Nutr. Rev. (April, 1957): 111.*

The daily production of proteins, including immune globulins, in the mammary glands of 8 cows at the University of Illinois, reached its maximum at about five days after parturition; whereas not until about a month after parturition did the synthesis of fat and lactose, and the total milk production, reach a maximum.—*J. Dai. Sci. (April, 1957): 377.*

Weaned pigs fed protein until 8 weeks old, at the University of Illinois, gained more rapidly and economically when the protein level was at or above 16 per cent. Below this level, feed requirements increased as the protein level decreased.—*J. Anim. Sci. (May, 1957): 389.*

Amylase and Starch Digestion in Baby Pigs.—When various purified starch-containing diets, fed to pigs 2 days old in Canada, were supplemented with pancreatic and malt amylases, there was no effect on their growth rate or survival time; nor was the digestibility of raw or cooked starches affected. As a source of carbohydrate, cooked starch was inferior to raw starch for the baby pigs.—*J. Anim. Sci. (May, 1957): 370.*

Study of Unthriftiness in Sheep.—Six young sheep in New Zealand grew well when placed on a dairy cattle pasture, while 6 others on the pasture previously used for sheep were unthrifty and had poor appetites. Parasites and rickets were excluded as the cause of unthriftiness and no gross differences in ruminal microorganisms were observed. A small but significant difference in the ruminal concentration of volatile fatty acids and ammonia was found, the ratio of acetic to propionic acid being lower in the thrifty group.—*Vet. Bull. (April, 1957): Item 1166.*

Feeding Prickly Pear Cactus.—When mules were substituted, in Mexico, for oxen killed because of aftosa, the natives objected because mules required grain and fodder whereas oxen would eat prickly pears. In 100 lb. of cactus, they not only ingested about 8.5 gal. of water (important in dry areas), but also nearly as much digestible protein, nearly twice as much nutritive energy, and five times as much carotene, at 16 per cent of the cost, as would have been supplied by 10 lb. of yellow corn.—*Cattleman (May, 1957): 76.*

Editorial

Sir Thomas Dalling, M.R.C.V.S., Retires

The recent retirement of Sir Thomas Dalling, at age 65, from his post as senior veterinarian with the Food and Agricultural Organization of the United Nations in Rome, occasions review of the life-work and accomplishments of one of the world's great veterinarians. Few men of the profession have played so prominent a role on so wide a stage and in so many branches of veterinary medical science.

From the time he graduated from the Royal (Dick) Veterinary College in Edinburgh in 1914, where he made a brilliant scholastic record, Dr. Dalling was destined to a career of several well-defined phases, in each of which he attained eminence. He practiced briefly, then entered the Royal Army Veterinary Corps, serving in France, in charge of veterinary laboratory services. This work first attracted him to research.

Following World War I and a further brief period of practice, Dr. Dalling joined Professor Gaiger on the faculty of Glasgow Veterinary College. There, from 1919 to 1923, his teaching and research—especially in the field of sheep diseases—brought recognition of his abilities. This four-year term of teaching and research established his interest in veterinary education and his later views on higher education.

In 1923, Sir Thomas accepted an appointment with the Wellcome Physiological Research Laboratories and, for the next 14 years, continued his work on anaerobes and the application of cultural methods. He also played a major part in developing the veterinary department at Wellcome.

In 1937, he was elected professor of animal pathology at Cambridge University, acting also as director of its Institute of Animal Pathology. Here he initiated and supervised investigations in such fields as bovine tuberculosis, fowl paralysis, and infertility in cattle. After five years at Cambridge, he was appointed director of the Ministry of Agriculture's Veterinary laboratory at Weybridge. There he conducted research on diagnostic measures and immunizing agents for such diseases as bovine brucellosis and tuberculosis, pullorum disease, and swine fever (hog cholera).

In 1949, he was appointed chief veterinary officer of Great Britain, a post he held jointly with the directorate at Weybridge. This dual task established his capacity for leadership and sound direction of programs of animal disease control and related projects. In 1952, he assumed his duties with the F.A.O.

Throughout these phases of his career, Dalling found time to help his profession. He served with distinction on committees and councils of the British Veterinary Medical Association, the International Veterinary Congress, the Agricultural Research Council, the Royal College of Veterinary Surgeons (president two years), the Royal Society of Medicine, and others.

For these varied activities and contributions, he was to receive high honors; many from learned societies and associations, including honorary membership in the AVMA in 1954. In 1951, he was knighted by the late King George VI in recognition of meritorious public and professional services.

Despite all these honors, Sir Thomas has remained a modest, unassuming man, always ready to do his share of work, and more, whenever and wherever a serious animal disease problem required study and development of control measures. In his five years with FAO he made major contributions to the program for control and eventual eradication of rinderpest; also to the European commission for the control of foot-and-mouth disease, which is now making notable headway. For many years he has been indirectly associated with the International Office of Epizootics in Paris and, under his guidance, FAO and IOE are cooperating in several fields of animal disease control.

Now that he has reached so-called retirement, it is inevitable that he would remain active. So it is that Sir Thomas Dalling plans to devote more time to veterinary medical education and the need to meet ever-increasing demands for more and better-trained veterinarians, research workers, and field assistants in animal disease control. These he sees as the foundation on which to build and expand the veterinary services so vital to public health and the agricultural-livestock economies of today's and tomorrow's world.

It is good to know that Sir Thomas will continue as a senior consultant to FAO. His friends and colleagues the world over join in wishing him many more years of useful service to the veterinary profession.

ABSTRACTS

Pathogenesis of Parasites

By use of Fe^{59}, the turnover rates of iron in the plasma and erythrocytes were determined in 3 lambs, 3 months old; 5 lambs, 1 year old; 3 calves, 3 months old; and 1 Hereford steer, 6 months old, which was suffering from chronic trichostrongylidosis.

The mean plasma iron turnover rate in the 3-month-old lambs was 0.97 mg. per kilogram per day, of which 85.0 per cent was incorporated into erythrocytes; the average erythrocyte life span was calculated to be 46 days.

The mean plasma iron turnover rate in the 1-year-old lambs was 0.56 mg. per kilogram per day, of which 78.0 per cent was incorporated into erythrocytes; the mean erythrocyte survival time was 52 days.

The mean plasma iron turnover rate in the 3-month-old calves was 0.81 mg. per kilogram per day, of which 68.0 per cent was incorporated into erythrocytes; the mean erythrocyte life span was 54 days.

In the steer suffering from chronic trichostrongylidosis, the plasma iron turnover was 1.58 mg. per kilogram per day, an increase of three to four times that of the control animals. Of this, 100 per cent was incorporated into the erythrocytes at a somewhat accelerated rate. The calculated life span of the erythrocytes was only 11 days.

As the result of the hematological and ferrokinetic data, it was concluded that the anemia in the steer was due principally to the fivefold shortening of erythrocyte survival time and to the inability of the bone marrow to compensate for this. The activity of the parasites may have produced either a plasma environment unsuitable to the integrity of erythrocytes or an intrinsic flaw in the erythrocyte at the time of its formation which resulted in early hemolysis, or both.—[*Norman F. Baker and James R. Douglas: The Pathogenesis of Trichostrongyloid Parasites. II. Ferrokinetic Studies in Ruminants. Am. J. Vet. Res., 18, (April, 1957): 295-302.*]

Isolation of Vibrio Fetus

Oxygen utilization studies have shown, statistically, that ovine *Vibrio fetus* cells grown on Brucella agar containing 5 per cent ovine amniotic fluid had a significantly higher metabolic rate than cells grown on Brucella agar alone. It is also shown that when cells of both ovine and bovine isolates were allowed to metabolize in 5 per cent bovine amniotic fluid, the cells of the bovine isolate exhibited a slightly higher metabolic response but not to a significant degree; ovine cells showed the greater response in ovine amniotic fluid.

Turbidity studies are used to show that 27 isolates of *V. fetus* of both bovine and ovine origin duplicated the manometric studies. A "t"-test was employed to show that growth of cells in Brucella broth containing 5 per cent ovine amniotic fluid was significantly higher at the 1 per cent level than the control Brucella broth.—[*M. S. Trueblood and J. O. Tucker: An Improved Medium for the Isolation of Vibrio Fetus. Am. J. Vet. Res., 18, (April, 1957): 445-448.*]

Susceptibility of Cattle to Brucella Abortus

Studies conducted on 86 cows to determine the relationship of age to susceptibility of nonvaccinated cattle to virulent *Brucella abortus* resulted in some differences between the percentages of animals becoming infected in the various age groups and also in the percentages of pregnancies terminating in premature births. Statistical analyses of these differences, however, showed them not to be significant.

The results of this experiment do not indicate that the age and evolution of the uterus through repeated pregnancies has any direct relation to the susceptibility of nonvaccinated cattle to virulent *Br. abortus*. Furthermore, the degree of variation in susceptibility of animals in the different age groups was no greater than that in animals of the same age.

The cattle were grouped at age intervals of one year. This procedure resulted in six groups of cattle ranging in age from 2 to 7 years old and older. Of the 86 animals, 80 were from a single source and 6 were purchased from Brucella-free herds. All except 4 animals were approximately four months' pregnant at the time they were exposed to approximately 700,000 viable cells of the virulent *Br. abortus* strain 2308.—[*E. R. Goode, C. A. Manthei, and T. E. Amerault: Relationship of Age to Susceptibility of Cattle to Virulent Brucella Abortus. Am. J. Vet. Res., 18, (April, 1957):279-282.*]

Protection of Sheep from Heat Radiation

The skin lesions of Utah range sheep, originally thought to be from fall-out contamination by *beta* ray-emitting substances, were a fulminating variant of the naturally occurring disease called "infectious pustular dermatitis." The hit-or-miss destruction of the dermal structures by this infection and the failure of the arrectores pilorum muscles to persist prove that the lesions were not the result of radiation damage.

The threshold dose for epilation of the sheared sheep skin lies between 2,500 and 5,000 rep.; of the normally wooled skin of the face, 5,000 and 10,000 rep.; and of a thickly wooled sheep, 10,000 and 15,000 rep. The amount of *beta* irradiation that would have been required to produce lesions as extensive as those caused by the infectious pustular dermatitis is estimated to be between 50,000 and 150,000 rep.

Sheep are naturally well protected from *beta*-radiation damage by the thickness of their wool.—[*C. C. Lushbaugh and John F. Spalding: The Natural Protection of Sheep from External Heat Radiation. Am. J. Vet. Res., 18, (April, 1957): 345-361.*]

FOREIGN ABSTRACTS

Tuberculosis in Dogs

Dogs have a relatively high resistance to tuberculosis and those that are exposed to tuberculous persons rarely become infected. At the veterinary school in Oslo, no case of tuberculosis was seen in dogs during the ten-year period preceding 1949. However, in the four years from 1949 to 1953, there were 8 cases among 1,750 dogs examined in the clinic. A brief description is given of each case. One animal was 10 months old; the others were 5 to 7 years old. The tubercle bacilli were studied in 7 cases and were all found to be the human type. Three of 6 animals tested failed to react to the intradermal tuberculin test. In 4 cases, the involvement was generalized, in 3 it was limited to abdominal organs, and in 1, the disease was limited to the thorax. There is a review of the literature with 42 references.—[*Olav A. Berg: Tuberculosis in Dogs. Acta Tuberc. Scand., 32, (1956): 351-361.*]—ALFRED G. KARLSON

Bovine Nerve Blocks

In a series of four articles, Professor Schreiber, director of the Anatomical Institute of the Veterinary College in Vienna, has provided detailed and well-illustrated descriptions of the sensory innervation of surgical fields in cattle. The actual area supplied by each nerve was determined by dissection and by experimental conduction anesthesia. The essential information about the nerve blocks is tabulated so that the clinician need only find the area he wants to anesthetize and read across the columns to learn the nerve supply, the point where the nerve should be blocked, the kind of needle used, the point of insertion, the direction of the needle, the depth of injection, and the volume of anesthetic solution required. A total of 71 regional blocks are described and illustrated in the series. A few examples will be given here.

In addition to the usual cornual nerve block, the author recommends that the frontal nerve be infiltrated along the dorsal margin of the orbit. The nerve is said to reach the dorsomedial side of the horn.

The landmark used for paravertebral anesthesia of the lumbar nerves was the craniolateral tip of the transverse process of the next vertebra behind the nerve. The needle was inserted on this transverse plane, 4 to 5 cm. from the median line. The depth of injection was 7 to 8 cm. The first lumbar transverse process is usually hidden behind the last rib; therefore, the intersection of the last rib and the border of the iliocostalis muscle (longissimus costarum) was taken as the transverse plane for injection of nerve T. 13.

The forefoot was anesthetized with three injections: (1) medial to the flexor tendons in the upper fourth of the metacarpus; (2) lateral to the flexor tendons and the interosseus muscle at the same level; and (3) medial to the extensor tendons in the middle of the metacarpus.

The author prefers to anesthetize the hindfoot by blocking the tibial nerve as in the horse, and the fibular (peroneal) nerve behind the lateral condyle of the tibia, deep to the biceps femoris. An interesting innovation was the sciatic nerve block. The needle was inserted midway on a line between the lateral part of the tuber ischii and the trochanter major. The nerve lies on the back of the hip joint at a depth of 10 to 12 cm. Theoretically, the sciatic block should give complete anesthesia of the foot, but apparently it was not as effective as the tibial and fibular blocks. Sciatic block was recommended as an adjunct to provide partial paralysis of the limb.

The anatomy and technique of the most practical nerve blocks have been recorded on a four-reel film with magnetic sound track (R.C.A.) in English. The running time is 70 minutes. It is obtainable from S.H.B. Film, Vienna IX, Sensengasse 3, Austria.—[*J. Schreiber: Die anatomischen Grundlagen der Leitungsanästhesie beim Rind. Wien. tierärztl. Monatschr. I. Kopfnerven, 42, (1955): 129-153; II. Rumpfnerven, 42, (1955): 471-491; III. Vorderextremität, 43, (1956): 273-287; IV. Hinterextremität, 43, (1956): 673-705.*]—ROBERT E. HABEL.

BOOKS AND REPORTS

The Physiology and Biochemistry of Lactation

Artificial induction of lactation in farm animals is a subject of considerable interest and has been studied by the author for many years. The lactogenic effects elicited by estrogens have been the subject of intensive research and are significant in a practical way, because truly spectacular milk yields have been induced by subcutaneous implantation of estrogen and progesterone.

The first chapter deals with the general problem; the second, with the mechanism which insures the correct timing of lactogenesis under natural conditions or of galactopoiesis by experimental methods. This mechanism is not fully understood, but the author suggests that estrogen and progesterone act synergistically when both are present, and that the combination is a potent one, capable of producing extraordinary results.

The succeeding two chapters deal with the factors which help to maintain milk secretion—the suckling stimulus, the endocrine balance, the enzyme systems involved, and other neural and psychological influences.

Then come chapters on the biosynthesis of milk fat, of lactose, and of the milk proteins. These are discussed in technical detail important to the physiologist and research worker, but of less interest to the practitioner.

The book gives a comprehensive review of the known facts and of the several theories concerning the various phases of milk secretion.—[*The Physiology and Biochemistry of Lactation. By S. J. Folley. 153 pages. Clarke, Irwin and Co., Ltd., 103 St. Clair Ave., West, Toronto 7, Ont. 1956. Price $4.00.*]—R. C. KLUSSENDORF.

THE NEWS

Pathologists Plan Seminar on Photography

The American College of Veterinary Pathologists is planning a seminar on professional photography as the program for their annual meeting to be held in conjunction with the AVMA convention.

The Seminar is scheduled for 7 p.m., Monday, August 19, in private dining room 98, Hotel Cleveland. The meeting is open to any AVMA member interested in this subject.

National Science Association Grants

The National Science Foundation has announced 235 grants totaling $4,316,352 to be awarded during the first quarter of 1957.

The grants support basic research in all fields of science. The School of Veterinary Medicine, University of California, was the recipient of a grant for a two-year study on biosynthesis of amino acids in dairy cows.

Laboratory Refresher Course

The laboratory branch of the Communicable Disease Center, Department of Health, Education, and Welfare, Chamblee, Ga., has announced the schedule of laboratory refresher courses to be offered between Sept. 9, 1957, and March 28, 1958.

Laboratory methods in the diagnosis of parasite, oral, mycotic, and bacterial diseases will be presented.

The complete schedule of refresher courses and application blanks may be secured from the laboratory branch, Communicable Disease Center, U. S. Public Health Service, P. O. Box 185, Chamblee, Ga.

Dr. B. T. Simms Retires—To Be on Veterinary College Staff at Ankara University, Turkey

Dr. B. T. Simms, former chief of the Bureau of Animal Industry and more recently assistant administrator for production research, Agricultural Research Service, U.S.D.A., retired on June 30, 1957. He has accepted a teaching and research position at the veterinary college of Ankara University, Ankara, Turkey, where his work will be in the field of diseases of cattle and sheep, an assignment under the auspices of the University of Nebraska.

Dr. Simms received his veterinary training at Alabama Polytechnic Institute, graduating in 1911. He did graduate work at the University of Chicago and Rush Medical College in 1912, 1914, and 1916. From 1911 to 1913, he was on the veterinary staff of North Carolina State College and then spent the next 25 years at Oregon State College where he was professor and head of the department of veterinary science.

In 1938, he was appointed director of the U. S. Regional Animal Disease Research Laboratory at Auburn, Ala., where his work included studies on parasitic diseases and Johne's disease. He continued in this position until 1945, when he was selected to head the former Bureau of Animal Industry in Washington, succeeding the late Dr. A. W. Miller.

Dr. Simms continued in this position until 1953 when the Department of Agriculture was reorganized, at which time he took over direction of animal disease and parasite research in ARS.

Dr. B. T. Simms

Dr. Simms' long record of distinguished service includes nearly ten years' membership on the AVMA Committee on Intelligence and Education (forerunner of the present Council on Education); he chairmanned the Committee in 1923-1924 and 1925-1926. He was president of the AVMA in 1946-1947, and was a member of its Committee on Legislation from 1949 to 1954.

Among the many awards and recognitions received by Dr. Simms are the Twelfth International Veterinary Congress Prize of the AVMA in 1955 and the Distinguished Service Research Award of the Animal Health Institute this past spring. He is a member of the AVMA (joined in 1912), the American Association for the Advancement of Science, the American Society of Parasitologists, the Washington Academy, and the honorary scientific fraternity, Sigma Xi.

Conference on Hog Cholera

A workshop conference on hog cholera eradication was held in Chicago, May 16, 1957, under the sponsorship of Livestock Conservation, Inc.

Approximately 35 livestock industry representatives and veterinarians attended the conference.

Herman C. Aaberg, livestock director, American Farm Bureau Federation, served as chairman of the meeting.

The program included the following presentations: "Practicability of Eradicating Hog Cholera," H. S. McNutt, University of Wisconsin, Madison; "Recent Developments in Hog Cholera Legislation" and "Discussion of the New Hog Cholera Bill H.R. 5933," C. D. Van Houweling, ARS, U.S.D.A., Washington, D. C.; "Viewpoint of the AVMA on Hog Cholera Eradication," H. E. Kingman, Jr., AVMA, Chicago; "Producers' Viewpoint on Hog Cholera Eradication," Keith Myers, National Swine Growers Council, Grundy City, Iowa, and Sam Russell, Illinois Agricultural Association, Chicago; "Breeders' Viewpoint on Hog Cholera Eradication," Rollie Pemberton, Hampshire Swine Registry, Peoria, Ill.; and "A Program of Education in Hog Cholera Eradication," Charles E. Bell, Jr., ARS, U.S.D.A.

The group recommended that Livestock Conservation, Inc., establish a committee on hog cholera eradication to be composed of representatives of all segments of the livestock industry.

Veterinarians Featured in Local Papers

Edmund Norman Anderson (ONT '39), of the Anderson Animal Hospital, Winnepeg, Man., was featured in the Saturday, April 6, 1957, edition of the *Winnipeg Free-Press.* The article, entitled "Sometimes a Poke in the Nose Pays Off," relates how Dr. Anderson earned the money for his veterinary education by boxing.

Dr. C. C. Graham (MCK '14), Wellsburg, veterinarian for 42 years, was featured in an article which appeared in the March 5, 1957, edition of the *Marshalltown Times-Republican.* The article pointed out Dr. Graham's interest in wildlife conservation.

Keith Robson (ONT '49), Selkirk, Man., was featured in the Sunday, Dec. 27, 1956, newspaper magazine *Family-Herald* which is distributed to Canadian publications. The article, entitled "The Vet Who Puts Science to Work," relates Dr. Robson's outstanding service to the farmers of his territory.

It was pointed out that Dr. Robson's practice area has a radius of 45 miles from Selkirk in a sparsely populated region. To save time, he has two cars equipped with two-way radios. To keep in touch with his clients' problems, he operates a 620-acre farm with 100 dairy cattle and 2 prize bulls, whose semen is used to improve herds in the area.

With his wife, an assistant veterinarian, and an artificial insemination technician, he operates his farm, and maintains an active practice, runs an artificial insemination program, and mimeographs a herd-management leaflet which he distributes to his AI subscribers.

AMONG THE STATES AND PROVINCES

Arkansas

Dr. Ellis, Public Health Veterinarian.—Colonel Harvie R. Ellis has assumed his duties as public health veterinarian, Arkansas State Health Department, following his retirement, April 30, 1957, at Fourth U. S. Army Headquarters, Fort Sam Houston, Texas, after more than 30 years of military service.

He had served as Fourth U. S. Army veterinarian since February, 1953. During the 1956 AVMA convention in San Antonio, Colonel Ellis served as secretary of the committee on local arrangements.

Illinois

Dr. J. V. Lacroix Receives Award.—Dr. J. V. Lacroix, Evanston, Ill., was presented the Mark L. Morris Animal Foundation Small Animal Award for his professional work in behalf of dogs and cats.

The presentation was made May 9, 1957, at the opening session of the twenty-fourth annual meeting of the American Animal Hospital Association, of which Dr. Lacroix is one of the

Dr. J. V. Lacroix receiving the Mark L. Morris Award.

founders, at the Hotel Sheraton-Palace, San Francisco.

The award includes a plaque honoring Dr. Lacroix for his work as a practitioner, teacher, lecturer, and journalist and an honorarium of $500.

• • •

Eastern Illinois V.M.A.—The fifth annual clinic of the Eastern Illinois Veterinary Medical Association was held May 8, 1957, at the University of Illinois, Urbana.

The program included 13 demonstrations and discussions of surgical and diagnostic procedures. More than 100 veterinarians attended the meeting.

The June meeting of the Eastern Illinois Veterinary Medical Association was held in Champaign, with a program on small animal practice.

• • •

Northern Illinois Clinic.—The Northern Illinois Veterinary Medical Association sponsored a full day of clinic demonstrations at the Fox Valley Livestock Center at St. Charles, May 22, 1957.

The demonstrations were equally divided between large and small animal subjects. Dr. E. C. Hannan acted as coordinator with Dr. H. P. Wessells, chairman of the large animal section and Dr. E. C. Samuels, chairman of the small animal section. Dr. G. E. Sedlacek narrated the demonstrations.

Indiana

Central Indiana V.M.A.—The meeting of the Central Indiana Veterinary Medical Association was held May 8, 1957, at Indianapolis. There were 40 veterinarians and guests in attendance. Dr. J. W. Green, state veterinarian, spoke on the state practice act. The rabies law, passed by the 1957 session of the State Legislature, was also discussed. Dr. Charles York, Pitman-Moore Co., Indianapolis, discussed canine distemper immunization.

s/PETER JOHNSON, *Secretary.*

Iowa

Sales Records by Dr. Verploeg's Ponies.—At a dispersal sale, according to the *Des Moines Register* (Iowa) of April 28, the 29-Shetland pony herd of the late Dr. W. C. Verploeg, Pella, Iowa, was sold for $140,500, a record average of $4,846. The high point was the record price of $17,000 for a 3-year-old sorrel stallion raised by Dr. Verploeg. A third record was set when a yearling stallion sold for $6,100.

The previous record price for a total sale was also set by a veterinarian, Dr. E. S. McClellard of Aledo, Ill., when his 36 ponies sold for $94,000.

• • •

Eastern Iowa Association.—The twenty-third annual clinic of the Eastern Iowa Veterinary Medical Association was held in Cedar Rapids, May 14, 1957.

The program included sections on poultry, diagnosis of swine diseases, small animals, public health, bovine sterility, diagnosis of large animal diseases, and large animal surgery.

Dr. Charles B. Thayer, Iowa City, served as the general chairman of the clinic.

Kansas

Conference for Kansas Veterinarians.—The nineteenth annual conference for Kansas veterinarians was held at the School of Veterinary Medicine, Manhattan, on May 26-28.

Guest speakers included: N. H. Casselberry, Cutter Laboratories, Berkeley, Calif.; John DeWar, Cherokee, Iowa; W. V. Lumb, Colorado State University, Fort Collins; D. R. Peterson, Oklahoma A. & M. College, Stillwater; C. J. Rehling, Auburn, Ala.; and A. D. Weber, Kansas State College, Manhattan.

Michigan

Southern Michigan V.M.A.—The program for the Southern Michigan Veterinary Medical Association, held on May 22, consisted of a talk, "New Developments in Canine Distemper Immunization" by Dr. R. V. Johnston, head, professional relations department, Allied Laboratories.

Missouri

Kansas City V.M.A.—The meeting of the Kansas City Veterinary Medical Association was held on May 21, 1957, in the Livestock Exchange Building.

The program consisted of a panel discussion on obstetrics and related problems of both large and small animals. Panel members included Drs. W. H. Mowder, chairman; A. S. Coats, Jr.; R. L. Messer; and R. L. Scott.

s/R. E. GUILFOIL, *Secretary.*

• • •

Kansas City Women's Auxiliary.—The Women's Auxiliary to the Kansas City Veterinary Medical Association met on May 21, 1957, at the Livestock Exchange Building. Mr. Phil Welch, American Petroleum Institute, discussed "Petro-Chemicals from Crude Oil in Your Daily Living—Cosmetics, Clothing, etc."

s/LUCILLE EAGLE, *President.*

New York

New Research Laboratory at Cornell.—Construction was started in May on a new $150,000 laboratory at Cornell's Veterinary Virus Research Institute on Snyder Hill.

The building, to be completed by late fall, will be a control laboratory for disease-free animals, with facilities for standardized nutrition. A $75,000 grant from the U.S.P.H.S. provides half its cost.

New York City Association.—The regular meeting of the Veterinary Medical Association of New York City, Inc., was held Wednesday, May 1, 1957, at the New York Academy of Sciences.

The program included a talk by Irwin Rothman, chief, Department of Physchiatry and Neurology, Juniata Park Hospital, on psychiatry of the animal owner (the veterinarian-client relationship).

s/C. E. DECAMP, *Secretary.*

FOREIGN NEWS

International Postgraduate Course Planned by Vienna Veterinary College

The Second International Postgraduate Course for Veterinarians will be held at the Vienna Veterinary College, Vienna, Austria, Oct. 2-5, 1957, according to an announcement from Prof. Dr. E. Lienert, chairman of the commission which is organizing the course.

Nearly 20 well-known authorities will present the course material which will cover a wide range of veterinary medical subjects. Excursions of veterinary interest are also planned.

Veterinarians generally are invited to take the course, for which a fee will be charged. Detailed programs and application forms are available from Veterinary College of Vienna (Tierärztliche Hochschule Wien), Vienna III, Austria.

STATE BOARD EXAMINATIONS

KENTUCKY—June 17 and July 29, 1957, Frankfort. J. K. Bushnell, Paris, Ky., secretary.

MINNESOTA—July 8-9, 1957, St. Paul. A. C. Spannaus, executive secretary, Minnesota Veterinary Examining Board, Waconia, Minn.

NEW YORK—June 12-13, 1957. Practical examination Ithaca. Mr. James O. Hoyle, secretary, 23 S. Pearl St., Albany. Week of July 8, 1957. Written examinations: New York City, Albany, Syracuse, Buffalo, Rochester

DEATHS

Star indicates member of AVMA

★**Ralph V. Beard** (KVC '18), 58, Burlington, Iowa, died Feb. 28, 1957, after a long illness. Dr. Beard was a member of the AVMA, the Eastern Iowa Veterinary Association, Southeastern Iowa Veterinary Medical Society, and the Midwest Small Animal Association.

He is survived by his widow.

Walter L. Bolin (ONT '29), 65, Montgomery, Ala., died April 10, 1957. Dr. Bolin is survived by two sons and one daughter. He had been a member of the AVMA for 30 years.

Alfred D. Bullock (OSU '04), 81, Sioux City, Iowa, died April 19, 1957. Dr. Bullock was for many years in the Meat Inspection Division, of the U.S.D.A.

Fred J. Leith (MCK '98), 84, Chicago, Ill., died May 19, 1957. Dr. Leith had been retired for some time.

James J. Moloney (AVC '98), 79, Forest Hills, N. Y., died April 12, 1957. Dr. Moloney had been a member of the Forest Hills police department for 47 years.

William A. Nichel (AVC '92), 86, Laurelton, N. Y. died recently. Dr. Nichel had been a member of the AVMA.

Harry L. Reiter (OSU '16), Bowling Green, Ohio, died Oct. 28, 1952. Dr. Reiter had retired from general practice some time prior to his death.

Arthur N. Ruby (STJ '15), 70, Wamego, Kan., died April 29, 1957. Dr. Ruby was a veteran of World War II and had served as a government inspector in Kansas. His widow and two children survive.

George F. Scheetz (OVC '28), 52, Prescott, Ariz., died April 5, 1957. Dr. Scheetz had practiced in Prescott since 1944, when he was discharged from the armed services. He is survived by his widow.

Edwin D. Schrock (UP '09), Haugen, Wis., died May 13, 1955. Dr. Schrock had served with the Division of Livestock Sanitation of the Wisconsin Department of Agriculture.

John J. Streets (AVC '88), 93, died in Ventura, Calif., on Feb. 10, 1957.

Dr. Streets served as Ventura County veterinarian for 45 years and had been a member of the California V.M.A. and the AVMA for 30 years prior to his retirement.

★**Floyd P. Wilcox** (GWU '16), 64, Los Angeles, Calif., died April 13, 1957, from a heart attack. After receiving his D.V.M. degree, Dr. Wilcox worked for a while with the BAI, U.S.D.A., and then accepted an appointment as deputy state veterinarian for the State of California. During this service he was first field veterinarian and then senior field veterinarian; he resigned in 1927 to accept a position with the Los Angeles County Health Department, of which he was appointed Livestock inspector in 1954.

Dr. Wilcox was active in professional activities and civic affairs. He was a member of the California State V.M.A., having served as an officer for seven years concluding as president in 1949-1950; the Southern California V.M.A. in which he had held all offices; and of the AVMA since 1917. He was also a member of numerous other scientific organizations.

He is survived by his widow, a son, Kenneth (COL '45), of Upland, Calif., two daughters, and five grandchildren.

PARKE, DAVIS & COMPANY DETROIT 32, MICHIGAN

Coming...

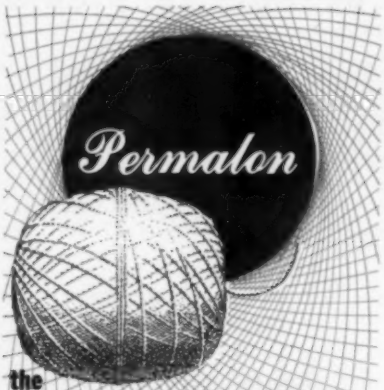
NINETY-FOURTH
ANNUAL CONVENTION

AMERICAN
VETERINARY
MEDICAL
ASSOCIATION

CLEVELAND AUDITORIUM
AUGUST 19-22
CLEVELAND, OHIO

TO BE WITH YOU AGAIN
TO GREET OUR MANY FRIENDS
AT BOOTH 50

PARKE-DAVIS *Extends a Welcome to all Members*



the
"TISSUE FRIENDLY" SUTURE
Completely compatible with all body tissues.

REACTION FREE...
No foreign body reaction, irritation or edema.

FASTER POST-OPERATIVE RECOVERY...
More rapid union of the incision. Faster functional return of organs concerned.

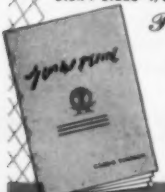
VERSATILE...
Permalon can be used parenterally or dermally without danger of granulation or suture suppuration. Always a dry suture area.

STRONGER...
Permalon has the highest tensile strength of any suture of like flexibility.

SAFER...
Permalon sterilizes completely, wet or dry, by standard sterilizing techniques.

HANDLES EASILY...
Permalon ties easily, permanently.

AVAILABLE EITHER TWISTED OR BRAIDED, U.S.P. SIZES 4/0 THROUGH 6.



Permalon:
A synthetic Amino-Amide (Proteid) of Albuminose structure.

Send for FREE Medical Reprints and name of your nearest distributor.

Lionhaven
4514 BROADWAY
OAKLAND 11, CALIF.

COMING MEETINGS

Symposium on Reproduction and Infertility. Annual meeting. Colorado State University, Fort Collins, July 1-3, 1957. F. X. Gassner, Colorado State University, Fort Collins, Colo., chairman, Committee on Arrangements.

Nebraska State Veterinary Medical Association. Summer meeting. Alliance, July 13-15, 1957. W. T. Spencer, 1250 N. 37th St., Lincoln, Nebr., secretary.

Mississippi State Veterinary Medical Association, Inc. Annual meeting. Hotel Heidelberg, Jackson, July 14-16, 1957. Harvey F. McCrory, Box 536, State College, Miss., secretary.

Kentucky Veterinary Medical Association. Annual meeting. Brown Hotel, Louisville, July 15-16, 1957. Robert H. Singer, 136 Shawnee Place, Lexington, Ky.

Iowa State College. Annual conference for veterinarians. Memorial Union, Ames, July 16-17, 1957. M. S. Hofstad. Veterinary Research Institute, Iowa State College, Ames, program chairman.

Alabama Polytechnic Institute. Annual conference for veterinarians. School of Veterinary Medicine, Auburn, July 21-24, 1957. R. S. Sugg, dean.

Canadian Veterinary Medical Association. Annual meeting. Hotel Georgia, Vancouver, B. C., July 22-24, 1957. James Archibald, Ontario Veterinary College, Guelph, Ont., vice-president.

Colorado Veterinary Medical Association. Annual meeting. LaCourt Hotel, Grand Junction, Aug. 9-10, 1957. G. H. Gilbert, 5500 Wadsworth Blvd., Arvada, Colo., secretary.

American Association of Veterinary Bacteriologists. Annual meeting. Ohio State University, Columbus, Ohio, August 16, and the Ohio Agricultural Experiment Station, Wooster, Aug. 17, 1957. C. H. Cunningham, College of Veterinary Medicine, Michigan State University, East Lansing, secretary.

American Veterinary Medical Association. Annual meeting. Cleveland Auditorium, Cleveland, Ohio, Aug. 19-22, 1957. J. G. Hardenbergh, 600 S. Michigan Ave., Chicago 5, Ill., executive secretary.

New Mexico Veterinary Medical Association. Annual meeting. Hilton Hotel, Albuquerque, Sept. 9-10, 1956. Earl Leslie, 920 N. Main St., Carlsbad, secretary.

Washington State Veterinary Medical Association. Annual meeting. Monticello Hotel, Longview, Sept. 9-10, 1957. William F. Harris, 1102 E. Main St., Puyallup, Wash., secretary.

New York State Veterinary Medical Society. Annual meeting. Hotel Statler, Buffalo, Sept. 11-13, 1957. M. H. Covert, 138 Inglewood Dr., Rochester 19, N. Y., secretary.

Northern Illinois Veterinary Medical Association. Fall meeting. Rockford, Sept. 18, 1957. J. G. Hardenbergh, 121 Bridge Street, Rockton, Ill., secretary-treasurer.

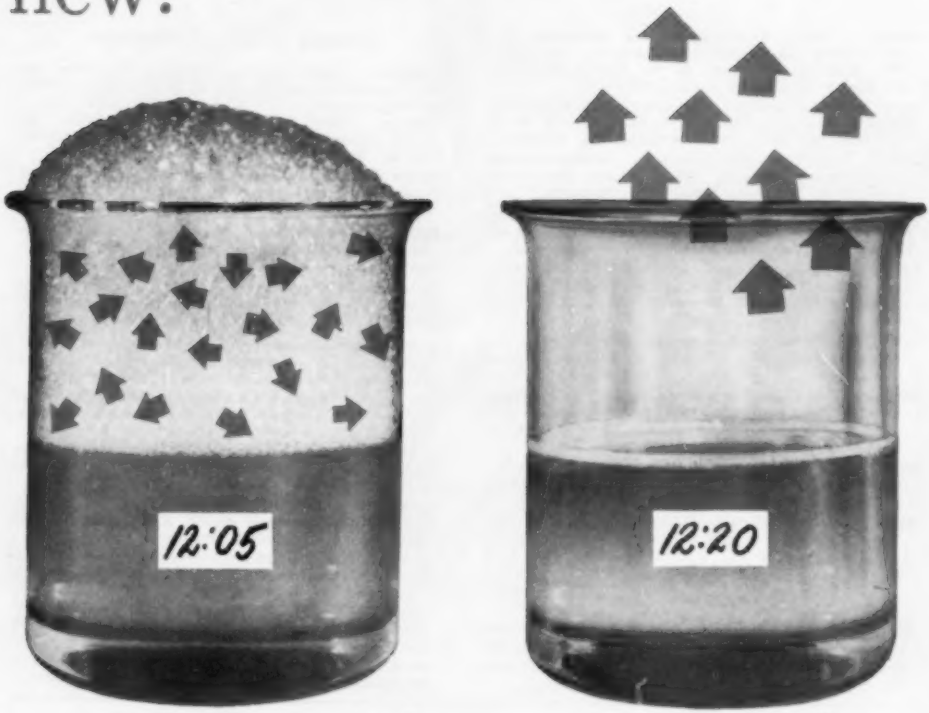
New England Veterinary Medical Association. Annual meeting. Equinox House, Manchester, Vt., Oct. 6-9, 1957. C. Lawrence Blakely, 180 Longwood Ave., Boston, Mass., secretary.

Purdue University. Annual short course for veterinarians. Purdue University, West Lafayette, Ind., Oct. 9-11, 1957. L. M. Hutchings, secretary.

Florida State Veterinary Medical Association. Annual meeting. Fort Harrison Hotel, Clearwater, Oct. 13-15, 1957. Robert P. Knowles, 2934 N.W. 17th Ave., Miami 37, Fla., secretary.

University of Missouri. Annual short course for graduate veterinarians, Oct. 14-15, 1957, School of Veterinary Medicine, University of Missouri, Columbia. Cecil Elder, chairman.

new!



now quicker relief of frothy bloat with effective

BLO-TROL*

BRAND OF ACETBUTYLATE

BREAKS THE FROTHY MASS . . . releases gases entrapped in froth in three to six minutes . . . prompt deflation in 15-30 minutes through normal eructation . . . or if necessary, obtain faster relief through trocharization or stomach tube, even in frothy bloat.

Sold to veterinarians only. Available in: 150 cc., multi-dose vials, each cc. contains 1 Gm. of acetbutylate.

Dosage—Cattle: intrarumenally or orally, 20-30 cc. Sheep and goats: 5-10 cc. Dose may be repeated in one hour, if necessary.

*Trademark

Pfizer

Department of Veterinary Medicine, PFIZER LABORATORIES, *Division, Chas. Pfizer & Co., Inc.*, Brooklyn 6, N. Y.

Pennsylvania State Veterinary Medical Association. Annual meeting. Hotel Brunswick, Lancaster, Oct. 16-18, 1957, Raymond C. Snyder, N. W. Corner Walnut St. and Copley Rd., Upper Darby, secretary.

Texas Veterinary Medical Association. Annual meeting. Baker Hotel, Dallas, Oct. 16-18, 1957. Paul B. Blunt, 712 Maverick Bldg., San Antonio, Texas, secretary.

Eastern Iowa Veterinary Association. Annual meeting. Hotel Sheraton-Montrose, Cedar Rapids, Oct. 17-18, 1957. F. E. Brutsman, Traer, Iowa, secretary.

Southern Veterinary Medical Association. Annual meeting. Hotel Roanoke, Roanoke, Va., Oct. 27-30, 1957. A. A. Husman, P. O. Box 91, Raleigh, N. Car., secretary.

Cornell University. Nutrition conference. Cornell University, Ithaca, N.Y., Oct. 31-Nov. 1, 1957. J. K. Loosli, Stocking Hall, Cornell University, Ithaca, N.Y., chairman.

Animal Care Panel. Annual meeting. Bellevue Hotel, San Francisco, Calif., Nov. 7-9, 1957. R. J. Flynn, Box 299, Lemont, Ill.

Minnesota Veterinary Medical Association. Annual meeting, St. Paul, Jan. 20-22, 1958. B. S. Pomeroy, School of Veterinary Medicine, University of Minnesota, St. Paul 1, Minn.

Oregon Veterinary Medical Association. Winter meeting. Portland, Jan. 31-Feb. 1, 1958. Edward L. Holden, P. O. Box 445, Oswego, secretary.

Kansas Veterinary Medical Association. Annual meeting. Hotel Broadview, Wichita, Feb. 9-11, 1958. K. Maynard Curts, 5236 Delmar Ave., Kansas City 3, Kan.

Foreign Meetings

British Veterinary Association, Annual congress. University of Cambridge, Cambridge, England, Aug. 25-31, 1957. Mr. F. Knight, 7, Mansfield St., Portland Place, London, W. 1, general secretary.

Regularly Scheduled Meetings

ALABAMA—Central Alabama Veterinary Association, the first Thursday of each month. B. M. Lauderdale, Montgomery, secretary.

Jefferson County Veterinary Medical Association, the second Thursday of each month. S. A. Price, 213 N. 15th St., Birmingham, secretary.

Mobile-Baldwin Veterinary Medical Association, the third Tuesday of each month. W. David Gross, 771 Holcombe Ave., Mobile, Ala., secretary.

ARIZONA—Central Arizona Veterinary Medical Association, the second Tuesday of each month. Keith T. Maddy, Phoenix, Ariz., secretary.

Southern Arizona Veterinary Medical Association, the third Wednesday of each month at 7:30 p.m. E. T. Anderson, Rt. 2. Box 697, Tucson, Ariz., secretary.

CALIFORNIA—Alameda Contra Costa Veterinary Medical Association, last Wednesday of each month. Leo Goldston, 3793 Broadway, Oakland 11, Calif., secretary.

Bay Counties Veterinary Medical Association, the second Tuesday of each month. Maurice L. Boevers, 3394 Mt. Diablo Blvd., Lafayette, Calif., secretary.

Central California Veterinary Medical Association, the fourth Tuesday of each month. R. B. Barsaleau, 2333 E. Mineral King, Visalia, Calif., secretary.

Kern County Veterinary Medical Association, the first Thursday evening of each month. A. L. Irwin, 301 Taft Highway, Bakersfield, Calif., secretary.

Mid-Coast Veterinary Medical Association, the first Thursday of every even month. W. H. Rockey, P. O. Box 121, San Luis Obispo, Calif., secretary.

Monterey Bay Area Veterinary Medical Association, the third Wednesday of each month. Lewis J. Campbell, 90 Corral de Tierra, Salinas, Calif., secretary.

North San Joaquin Valley Veterinary Medical Association, the fourth Wednesday of each month at the Hotel Co-

A MESSAGE TO VETERINARIANS

BUY ONLY an X-ray outfit designed exclusively for veterinary use. Don't make the mistake of buying an X-ray unit for use on the human body.

X-RAY ANIMAGRAPH

TRADE MARK REG. U. S. PAT. OFF.

U. S. Patent No. 2323704

A complete X-ray examination of the human body requires both Fluoroscopy and Radiography.

No Army, Navy or civilian hospital X-ray Department is complete without Fluoroscopy and Radiography.

If Fluoroscopy is a necessity for these hospitals, it is equally necessary for Animal Hospitals.

CAMPBELL X-RAY CORP.
110 Cummington St., Boston 15, Mass.
Kindly send me descriptive information, including prices and terms, on the Campbell X-Ray Animagraph, designed for safety and convenience of veterinarians.

Dr. .....
(Please Print)

Address .....

.....
(City and State)

by effective control of both
the **inflammation and infection**

METIMYD OINTMENT with NEOMYCIN VETERINARY

the new topical therapy
combining METICORTELONE Acetate and two antibacterials, acts promptly to relieve excessive infiammatory and allergic reactions to infections, allergens and trauma. It has been found particularly effective in nonspecific eczemas, allergic skin disorders and ear canker.

METIMYD offers the assured Meti-steroid benefits of prednisolone acetate (0.5%), plus the wide range antibacterial action of sulfacetamide sodium (10%) and neomycin sulfate (0.25%).

Packaging: METIMYD Ointment, ⅛ oz. applicator tube, boxes of 1, 12, 36.

METICORTELONE,* brand of prednisolone.
METIMYD,* brand of prednisolone acetate and sulfacetamide sodium.
*T.M. V-MM-J-117

Schering

SCHERING CORPORATION, BLOOMFIELD, NEW JERSEY

Before Paxital, requires special physical restraint

30 minutes after Paxital (subcutaneously or intramuscularly)

NEW nonsedative animal tranquilizer

Exclusively for veterinary use Paxital, a new animal tranquilizer designed exclusively for veterinary use, produces a peaceful mental state *without sedation.* Animals remain normally responsive to surroundings. Paxital controls anxiety, nervousness and apprehension. It also appears to have a significant analgesic effect.

Broad clinical application Paxital is useful to eliminate barking and relieve nervousness or tension, especially in hospitalized animals. It is of value to reduce biting and scratching in skin conditions . . . for minor surgery when a general anesthetic is contraindicated or undesirable . . . as an adjunct in major surgery to permit smoother induction of anesthesia and an uneventful recovery (and to reduce the amount of barbiturates necessary) . . . to counteract shock and as an antiemetic.

Dosage: Average dose (for 20 to 30 lb. dog): *orally*—50 to 100 mg. two or three times daily, as indicated; *parenterally*—2 cc. (50 mg.). Paxital may be administered intravenously, intramuscularly or subcutaneously. Occasionally, an additional 2 cc. may be required to obtain the desired clinical response. Tranquilization is obtained usually within 45 minutes following oral administration. Onset of action following parenteral administration is more rapid.

Contraindications: Hepatic diseases or disorders. Central nervous system involvement.

Packaging: 25 and 50 mg. tablets in bottles of 100 and 500; 2 cc. ampuls (25 mg./cc.) in boxes of 10 and 50.

Available through your ethical veterinary distributor.

Paxital*

BRAND OF MEPAZINE

*TRADEMARK

Division of Veterinary Medicine **WARNER-CHILCOTT**

proven results in these diseases of small animals

CANINE TRACHEOBRONCHITIS (KENNEL COUGH). In one study of 12 cases, FURADANTIN stopped the cough completely within 3 to 7 days.[1]

URINARY TRACT INFECTIONS. Extensively used in human genitourinary tract infections, FURADANTIN has also produced impressive clinical results in the treatment of bacterial nephritis and cystitis of dogs and cats.[2]

• • •

Preliminary data point to new indications for FURADANTIN. Various reports describe encouraging results with FURADANTIN in the treatment of vaginitis in the bitch and genitourinary tract infections of mares.[2] Another article concludes that FURADANTIN is an excellent adjunct to surgery in the treatment of prostatic abscess in the dog.[3]

Like all the nitrofurans, FURADANTIN is bactericidal to a wide range of both gram-negative and gram-positive organisms. It is nontoxic to kidneys, liver and blood-forming organs; and development of bacterial resistance is negligible.

Available as orange scored tablets of 10, 50 and 100 mg.; and Oral Suspension, bottle of 60 cc.

REFERENCES: 1. Mosier, J. E.: Vet. M. 50:605 (Nov.) 1955. 2. Belloff, G. B.: Calif. Vet. 9:27 (Sept.-Oct.) 1956. 3. Pollock, S.: J. Am. Vet. M. Ass. 129:274 (Sept.) 1956.

FURADANTIN® veterinary

BRAND OF NITROFURANTOIN

AVAILABLE THROUGH YOUR PROFESSIONAL VETERINARY DISTRIBUTOR

NITROFURANS—A NEW CLASS OF ANTIMICROBIALS—NEITHER ANTIBIOTICS NOR SULFONAMIDES . . . PRODUCTS OF EATON LABORATORIES

vell, in Modesto, Calif. Lyle A. Baker, Turlock, Calif., secretary.

Orange Belt Veterinary Medical Association, the second Monday of each month. Chester A. Maeda, 766 E. Highland Ave., San Bernardino, Calif., secretary.

Orange County Veterinary Medical Association, the third Thursday of each month. Donald E. Lind, 2643 N. Main St., Santa Ana, Calif., secretary.

Peninsula Veterinary Medical Association, the third Monday of each month. R. C. Lawson, 4040 El Camino, Palo Alto, Calif., secretary.

Redwood Empire Veterinary Medical Association, the third Thursday of each month. Robert E. Clark, Napa, Calif., secretary.

Sacramento Valley Veterinary Medical Association, the second Wednesday of each month. W. E. Steinmetz, 4227 Freeport Blvd., Sacramento, Calif., secretary.

San Diego County Veterinary Medical Association, the fourth Tuesday of each month. H. R. Rossoll, 1795 Moore St., San Diego, Calif., secretary.

San Fernando Valley Veterinary Medical Association, the second Friday of each month at the Casa Escobar Restaurant in Studio City. John Chudacoff, 7912 Sepulveda Blvd., Van Nuys, secretary.

Santa Clara Valley Veterinary Association, the fourth Tuesday of each month. Kay Beulley, N. Fourth and Gish Rd., San Jose, Calif., secretary.

Southern California Veterinary Medical Association, the last Wednesday of each month. Don Mahan, 1919 Wilshire Blvd., Los Angeles 57, Calif., executive secretary.

Tulare County Veterinarians, the second Thursday of each month. R. B. Barsaleau, 2333 E. Mineral King, Visalia, Calif., secretary.

COLORADO—Denver Area Veterinary Society, the fourth Tuesday of every month. Richard C. Tolley, 5060 S. Broadway St., Englewood, Colo., secretary.

Northern Colorado Veterinary Medical Society, the first Monday of each month. M. A. Hammarlund, School of Veterinary Medicine, Colorado A. & M. College, Fort Collins, Colo., secretary.

DELAWARE—New Castle County Veterinary Association, the first Tuesday of each month at 9:00 p.m. in the Hotel Rodney, Wilmington, Del. E. J. Hathaway, Clifton Park Manor, Apt. 73-5, Wilmington 2, Del., secretary.

FLORIDA—Central Florida Veterinary Medical Association, the first Tuesday of each month, time and place specified monthly. Jack H. McElyer, 5925 Edgewater Drive, Orlando, Fla., secretary.

Jacksonville Veterinary Medical Association, the first Thursday of every month. Dodsons Restaurant. P. S. Roy, 4443 Atlantic Blvd., Jacksonville, Fla., secretary.

Northwest Florida Veterinary Medical Society, third Wednesday of each month, time and place specified monthly. T. R. Geci, 108B Catherine Ave., Pensacola, Fla., secretary.

Palm Beach Veterinary Society, the last Thursday of each month in the county office building at 810 Datura St., West Palm Beach. J. J. McCarthy, 500-25th Street, West Palm Beach, Fla., secretary.

Ridge Veterinary Medical Association, the fourth Thursday of each month in Bartow, Fla. Paul J. Myers, Winter Haven, Fla., secretary.

South Florida Veterinary Society, the third Tuesday of each month, at the Seven Seas Restaurant, Miami, Fla. E. D. Stoddard, 6432 S. W. 8th St., Miami, Fla., secretary.

Suwannee Valley Veterinary Association, the fourth Tuesday of each month, Hotel Thomas, Gainesville. W. B. Martin, Jr., 3002 N. W. 6th St., Gainesville, Fla., secretary.

Volusia County Veterinary Medical Association, the fourth Thursday of each month. A. E. Hixon, 131 Mary St., Daytona Beach, Fla., secretary.

GEORGIA—Atlanta Veterinary Society, the second Tuesday of every month at the Elks Home on Peachtree St., Atlanta, Ga. J. L. Christopher, Smyrna, Ga., secretary.

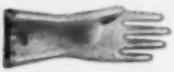
Veterinary Gloves by PIONEER

...Specialists in Surgical, Industrial and Household Hand Protection for over 35 Years

Shoulder Length
Obstetrical Gloves

of brown latex. One universal size fits either hand. Neck strap holds sleeve in place while you work.

ROLLPRUFS®
with Flat Banded Wrists



Thin, sheer surgical gloves of white latex that won't roll down. Sizes 6 to 9½. Order RP-158.

Cotton Flock Lined
Utility Gloves

Oil, acid, caustic and grease resistant neoprene. Non-slip grip. Slip on and off easily. Small, medium and large sizes. Order U-35.

Elbow Length
Obstetrical Glove

Tough, sheer white latex. Fits either hand. Sizes medium and large.

ROLLPRUFS®
of Green Neoprene

for people allergic to latex natural rubber. Sizes 6½ to 9½. Order 75-LW.

Short Wristed QUIXAM®

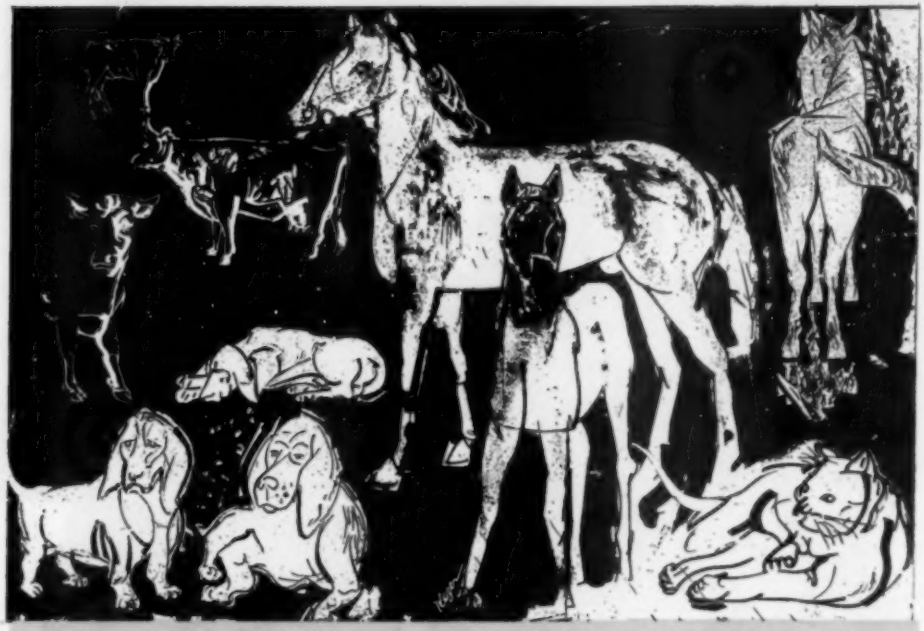
Tough, sheer white latex. Fits either hand. Small, medium and large sizes.

Also Brown Latex liners for insemination work.

Order from your supplier today or write us.

the PIONEER Rubber Company

356 Tiffin Road
Willard, Ohio



prompt control of surface infections with

TOPICAL NITROFURANS

FURACIN®

brand of nitrofurazone

Prevention or treatment of bacterial infections of:

- surgical & traumatic wounds
- burns
- eye & ear
- cutaneous ulcers
- pyodermas
- osteomyelitis of compound fractures

FURACIN products contain FURACIN 0.2% in water-miscible vehicles. Available as FURACIN Dressing Veterinary in jars of 4 oz. and 1 lb.; FURACIN Dressing with Anesthetic (butacaine sulfate 0.5%) in tube of ½ oz. and jar of 1 lb.; FURACIN Soluble Powder in plastic "puff" bottle of 10 Gm.; FURACIN Solution in bottles of 2 oz.; 1 pint; 1 gal. FURACIN Ear Solution in bottles of 1 fl.oz.

FURASPOR®

brand of nitrofurfuryl methyl ether

Triple-action fungicide, sporicide, bactericide in:

- dermatomycoses and their secondary bacterial infections

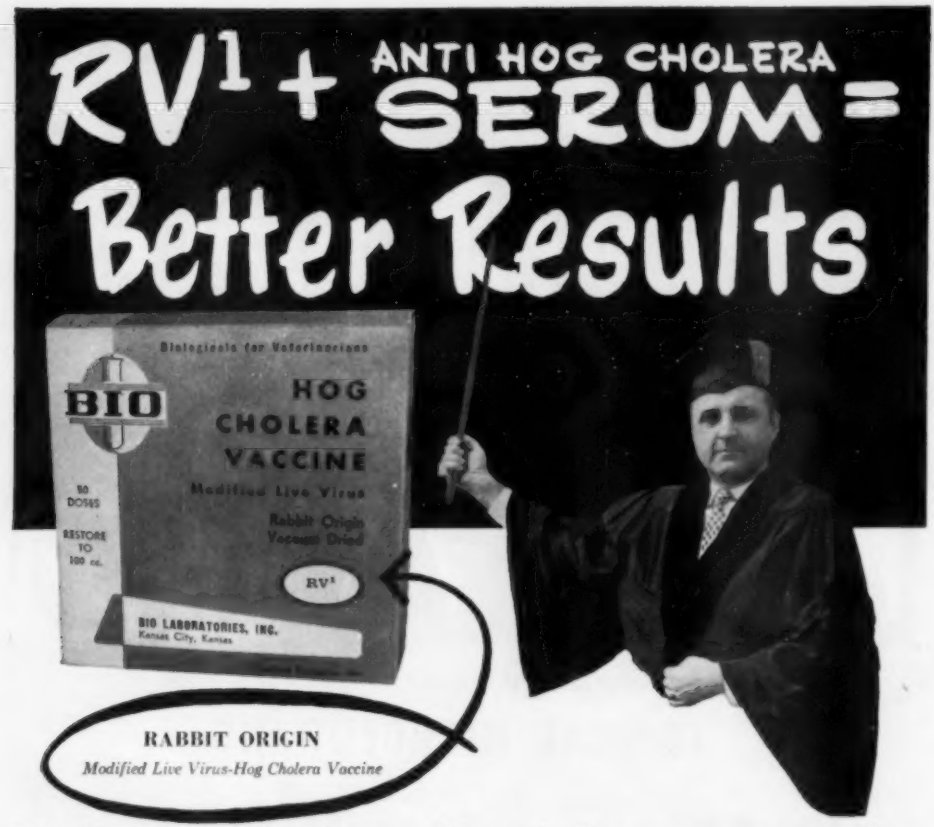
Available as FURASPOR Liquid Veterinary, containing FURASPOR 0.4%, quaternary ammonium compound 0.5%, in a water-miscible vehicle of benzyl benzoate 15% and water. Odorless and nonstaining. Bottles of 2 fl.oz. with dauber top, and 1 pint.

NOTE: FURASPOR is *contraindicated* for cats and rabbits because of the benzyl benzoate content.

AVAILABLE THROUGH YOUR PROFESSIONAL VETERINARY DISTRIBUTOR

NITROFURANS—A NEW CLASS OF ANTIMICROBIALS—NEITHER ANTIBIOTICS NOR SULFONAMIDES

EATON LABORATORIES
NORWICH, NEW YORK



Bio Laboratories is steadfast in its recommendation that hog cholera serum should be simultaneously administered with Rabbit Origin, Hog Cholera Vaccine. In accepting this recommendation, you will be accepting a larger margin of safety during vaccination, and more gratifying results in the months that follow. The standard dosage is 2cc RV' (Modified Live Virus, Vacuum Dried, Rabbit Origin, Hog Cholera Vaccine) with the simultaneous injection of 10cc's Anti-Hog Cholera Serum.

Bio Laboratories produces a complete line of large animal biologicals for the exclusive use of veterinarians.

BIO Laboratories — KANSAS CITY, KANSAS

Amazing

VITAMIN-MINERAL TABLET FOR DOGS

ARMOUR

New

Caminal S

with the canine high palatability factor

dogs love it! beg for it!

TABLETS ACCEPTED FREE CHOICE

- simple to administer
- excellent conditioning agent for skin and coat
- eliminates problems of finicky eaters
- vitamin-mineral deficiency readily corrected with Caminal S
- sick and normal dogs eat their food with relish

For complete Technical data Write:
Manager Professional Relations
Armour Veterinary Laboratories
P.O. Box 511, Kankakee, Illinois

NOSE TASTE CRUNCH

ARMOUR

VETERINARY LABORATORIES
A Division of Armour and Company
KANKAKEE, ILLINOIS

SUPPLY: Bottles of 50 Tablets.

ILLINOIS—Chicago Veterinary Medical Association, the second Tuesday of each month. Mark E. Davenport, Jr., 215 S. Edgewood Ave., LaGrange, Ill., secretary.

Eastern Illinois Veterinary Medical Association, the first Thursday of March, June, September, and December. A one-day clinic is held in May. H. S. Bryan, College of Veterinary Medicine, University of Illinois, Urbana, secretary.

INDIANA—Central Indiana Veterinary Medical Association, the second Wednesday of each month. Peter Johnson, Jr., 4410 N. Keystone Ave., Indianapolis 5, secretary.

Michiana Veterinary Medical Association, the second Thursday of every month except July and December, at the Hotel LaSalle, South Bend, Ind. J. M. Carter, 3421 S. Main St., Elkhart, Ind., secretary.

Tenth District Veterinary Medical Association, the third Thursday of each month. J. S. Baker, P. O. Box 52, Pendleton, Ind., secretary.

IOWA—Cedar Valley Veterinary Association, the second Monday of each month, except January, July, August, and October, at Black's Tea Room, Waterloo, Iowa. H. V. Henderson, Reinbeck, Iowa, secretary.

Coon Valley Veterinary Association, the second Wednesday of each month, September through May, at the Bradford Hotel, Storm Lake, Iowa. D. I. Lee, Sac City, Iowa, secretary.

East Central Iowa Veterinary Medical Society, the second Tuesday of every month. Dr. W. T. Rugger, Oxford, secretary.

Fayette County Veterinary Association, the third Tuesday of each month, except in July and August, at Pa and Ma's Restaurant, West Union, Iowa. Donald E. Moore, Box 178, Decorah, Iowa, secretary.

Northeast Iowa-Southern Minnesota Veterinary Association, the first Tuesday of February, May, August, and November at the Winneslick Hotel, Decorah, Iowa, 6:30 p.m. Donald E. Moore, Box 178, Decorah, Iowa, secretary.

KENTUCKY—Central Kentucky Veterinary Medical Association, the first Wednesday of each month. L. S. Shirrell, Versailles Rd., Frankfort, secretary.

Jefferson County Veterinary Society of Kentucky, Inc., the first Wednesday evening of each month in Louisville or within a radius of 50 miles. W. E. Bewley, P.O. Box "H," Crestwood, secretary.

MARYLAND—Baltimore City Veterinary Medical Association, the second Thursday of each month, September through May (except December), at 9:00 p.m. at the Park Plaza Hotel, Charles and Madison St., Baltimore, Md. Harry L. Schultz, Jr., 9011 Harford Rd., Baltimore, Md., secretary.

MICHIGAN—Mid-State Veterinary Medical Association, the fourth Thursday of each month with the exception of November and December. Robert E. Kader, 5034 Armstrong Rd., Lansing 17, Mich., secretary.

Saginaw Valley Veterinary Medical Association, the last Wednesday of each month. S. Correll, Rt. 1, Midland, Mich., secretary.

Southeastern Veterinary Medical Association, the fourth Wednesday of every month, September through May. Gilbert Meyer, 14003 E. Seven Mile Rd., Detroit 5, Mich., secretary.

MISSOURI—Greater St. Louis Veterinary Medical Association, the first Friday of the month (except July and August) at the Sheraton Hotel, Spring Ave. and Lindell Blvd. Allen B. Shopmaker, 136 N. Meramec, Clayton 5, Mo., secretary.

Kansas City Veterinary Medical Association, the third Tuesday of each month at Exchange Hall, ninth floor, Livestock Exchange Bldg., 1600 Genessee St., Kansas City, Mo. Busch Meredith, 800 Woodswether Rd., Kansas City 5, Mo., secretary.

SELF FILLING SYRINGE

The multi-injector's third hand

Another accurate smooth working ground glass barrel — leak proof metal plunger instrument with many possibilities. Adjustable for any capacity. By attaching one end of a rubber tube to the self-filling syringe and the other to a bottle of serum or vaccine any number of quick 1/4cc to 10cc accurate dose injections can be made. The instrument is operated with one hand. Anyone who injects a large number of animals will find the Self-Filling Syringe will pay for itself both in labor and serum saved after the first day's use.

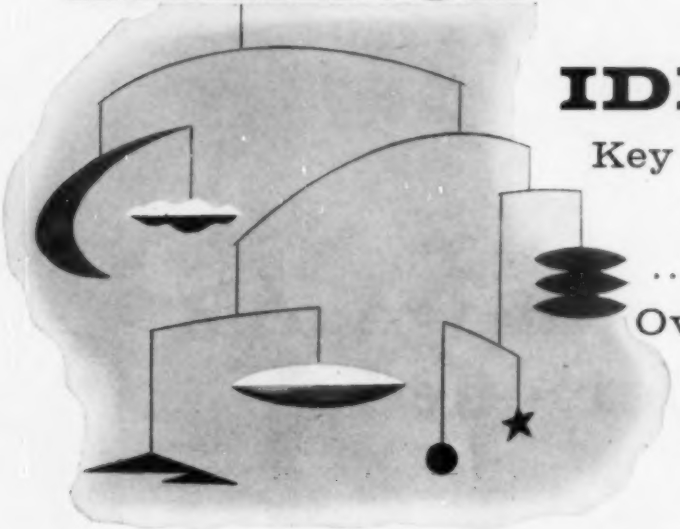
Sizes 2cc, 5cc and 10cc

Literature upon request

Inquire at your nearest veterinary dealer or wholesaler about this new improved outstanding product.

Boston Instrument Mfg. Co. Inc., 50 Thayer Street, Boston 18, Mass.

TOTAL BALANCE



IDEAL'S

Key to Complete Nutrition ...Without Overfeeding!

While the nutritive requirements of dogs are well established, dog foods must do more than supply the known essentials. These essentials must be balanced. Imbalance due to excesses, as well as deficiencies, result in improper development and poor health. IDEAL DOG FOOD supplies all nutrients in scientifically balanced proportions. With Ideal it is not necessary to overfeed in order to satisfy the dog's requirements.

IDEAL DOG FOOD contains properly balanced proportions of:

1. **PROTEINS** — biologically adequate for growth and tissue repair—from Government Inspected meat by-products and selected vegetable sources.
2. **CALORIES** — adequate for efficient utilization of nutrients.
3. **CARBOHYDRATES**—for rapid conversion into energy—from soy and barley.
4. **FATS**—animal, fish, and vegetable for sustained energy and improved coat.
5. **VITAMINS** — for optimum well-being (A, B Complex, D and E from meat by-products, carrots, cod liver oil, and wheat germ).
6. **MINERALS**—calcium, phosphorus, and trace elements for sound body structure. Iron oxide for hemoglobin and erythrocyte formation.
7. **FLAVOR** — dogs and cats relish Ideal day after day.

A steady diet of IDEAL DOG FOOD maintains good health and promotes normal growth processes.

Prescribe IDEAL routinely for the home fed pet, for the hospitalized dog or cat, and for the "boarder."

©WILSON & CO., INC., Meat Packers
Chicago 1, Illinois

Total balance is Ideal's key to complete nutrition . . . without overfeeding!

Skill, knowledge and experience

The veterinarian is devoted to the essential task of preserving the health and well-being of millions of head of livestock and of countless animal pets.

Their owners entrust him with this great economic and humane responsibility because of their faith in his skill born of long, thorough professional training, coupled with wide experience in practice.

Our Veterinary Professional Service Department functions exclusively to furnish the veterinarian with the research and resulting high quality products his practice requires.

The Cyanamid Veterinary Professional line, including the POLYOTIC® Tetracycline products, is sold only to veterinarians.

For detailed information write to VETERINARY PROFESSIONAL SERVICE DEPARTMENT, AMERICAN CYANAMID COMPANY, NEW YORK 20, N. Y.

CYANAMID

NEW JERSEY—Central New Jersey Veterinary Medical Association, the second Thursday of November, January, March, and May at Old Hights Inn, Hightstown, N. J. David C. Tudor, Cranbury, N. J., secretary.

Metropolitan New Jersey Veterinary Medical Association, the third Wednesday evening of each month from October through April at the Academy of Medicine, 91 Lincoln Park South, Newark, N. J. Myron S. Arlein, 2172 Milburn Ave., Maplewood, N. J., secretary.

Northern New Jersey Veterinary Association, the fourth Tuesday of each month at the Casa Mana in Teaneck. James R. Tanzola, Upper Saddle River, secretary.

Northwest Jersey Veterinary Society, the third Wednesday of every odd month. G. R. Muller, 43 Church St., Lambertville, N. J., secretary.

Southern New Jersey Veterinary Medical Association, the third Tuesday of each month at the Collingswood Veterinary Hospital, Collingswood. W. E. Snyder, E. Kings Highway and Munn Ave., Haddonfield, secretary.

NEW YORK—New York City, Inc., Veterinary Medical Association of, the first Wednesday of each month at the New York Academy of Sciences, 2 East 63rd St., New York City. C. E. DeCamp, 43 West 61st St., New York 23, N. Y., secretary.

New York State Veterinary College. Annual conference for veterinarians. Cornell University, Ithaca. W. A. Hagan, New York State Veterinary College, Cornell University, Ithaca, N. Y., dean.

Monroe County Veterinary Medical Association, the first Thursday of even-numbered months except August. Irwin Bircher, 50 University Ave., Rochester, N. Y., secretary.

NORTH CAROLINA—Central Carolina Veterinary Medical Association, the second Wednesday of each month at 7:00 p.m. in the O'Henry Hotel, Greensboro. Joseph A. Lombardo, 411 Woodlawn Ave., Greensboro, secretary.

Eastern North Carolina Veterinary Medical Association, the first Friday of each month, time and place specified monthly. Byron H. Brow, Box 453, Goldsboro, N. Car., secretary.

Piedmont Veterinary Medical Association, the last Friday of each month. John G. Martin, Boone, N. Car., secretary.

Twin Carolinas Veterinary Medical Association, the third Thursday of each month in the Orange Bowl Restaurant, Rockingham, N. Car., at 7:30 p.m. James R. Burgess, Rockingham, N. Car., secretary.

OHIO—Cuyahoga County Veterinary Medical Association, the first Wednesday of each month, September through May (except January), at 9:00 p.m. at the Carter Hotel, Cleveland, Ohio. Ed. R. Jacobs, 5522 Pearl Rd., Cleveland, Ohio, secretary.

OKLAHOMA—Oklahoma County Veterinary Medical Association, the second Wednesday of every month, 7:30 p.m., Patrick's Foods Cafe, 1016 N.W. 23rd St., Oklahoma City. Forrest H. Stockton, 2716 S.W. 29th St., Oklahoma City, Okla., secretary.

Tulsa Veterinary Medical Association, the third Thursday of each month in Directors' Parlor of the Brookside State Bank, Tulsa, Okla. Don L. Hohmann, 538 S. Madison St., Tulsa, Okla., secretary.

PENNSYLVANIA—Keystone Veterinary Medical Association, the fourth Wednesday of each month at the University of Pennsylvania School of Veterinary Medicine, 39th and Woodland Ave., Philadelphia 4, Pa. Raymond C. Snyder, 39th and Woodland Ave., Philadelphia 4, Pa., secretary.

SOUTH CAROLINA—Piedmont Veterinary Medical Association, the third Wednesday of each month at the Fairforest Hotel, Union, S. Car. Worth Lanier, York, S. Car., secretary.

TEXAS—Coastal Bend Veterinary Association, the second Wednesday of each month. J. Marvin Prewitt, 4141 Lexington Blvd., Corpus Christi, Texas, secretary.

VIRGINIA—Central Virginia Veterinarians' Association, the third Thursday of each month at the William Byrd Hotel in Richmond at 8:00 p.m. M. R. Levy, 312 W. Cary St., Richmond 20, Va., secretary.

HISTACOUNT®
Histacount is the trade mark of Professional Printing Company, Inc.
—America's largest printers for Doctors exclusively.
Histacount means highest quality at lowest prices for Printing, Patients' Records, Bookkeeping Systems and Filing Supplies.
Histacount means your satisfaction or money back—no questions.
Free samples and catalogue on request.
PROFESSIONAL PRINTING COMPANY, INC.
NEW HYDE PARK, NEW YORK
OUR 27TH YEAR
AMERICA'S LARGEST PRINTERS TO THE PROFESSIONS

PREFERRED

distemperoid virus

ferret origin

VIABLIZED

FROMM

When DISTEMPEROID VIRUS was made available by Fromm Laboratories in 1939, it was the first live, biologically altered virus vaccine ever produced for use by the veterinary profession against canine distemper.

Today, the discerning veterinarian uses DISTEMPEROID VIRUS as his agent of choice.

Used prophylactically, DISTEMPEROID VIRUS confers rapid immunity in one injection and has the plus factor of providing protection against Hard Pad disease. Used therapeutically in the primary stages of distemper, it has no equal.

Administer DISTEMPEROID VIRUS with confidence.

- Sold to graduate veterinarians only.
- Contact your local distributor.

FREE ON REQUEST

"Life with Rover" is an entertaining and informative 8-page booklet on the ancestry, diet and healthcare of dogs. It's for free distribution to your dog owner clients. Ask your local distributor for a supply.

FROMM

Laboratories, Inc.

Grafton, Wisconsin, U.S.A.

A bullet for Charlemagne

THE Caco general got slowly to his feet. Behind him, in the darkness, stood a hundred Haitian outlaws. At his feet was a small fire.

Confronting him, the tattered young man in blackface disguise saw the firegleam on his white silk shirt and pearl handled pistol and knew this was the murderous chieftain, Charlemagne Masena Peralte. The man he'd come for, through a jungle and a 1200-man encampment, past six hostile outposts, risking detection and certain death.

Charlemagne squinted across the fire. "Who is it?" he challenged in Creole.

There was no alternative; Marine Sergeant Herman Hanneken drew an automatic and fired.

The night exploded into gunflame, most of it from Hanneken's second-in-command, Marine Corporal Button, and his handful of disguised Haitian gendarmes. But the shot that killed Charlemagne was the one which would finally end Caco terror and bring peace to Haiti.

Sergeant Hanneken is retired now—as Brigadier General Hanneken, USMC, with a Silver Star, a Legion of Merit, a Bronze Star, a Gold Star, and a Navy Cross. And, for his expedition against Charlemagne, November 1, 1919, the Medal of Honor.

The Herman Hannekens are a rare breed, it is true. Yet in all Americans there is much of the courage and character which they possess in such abundance. Richer than gold, it is the *living* wealth behind one of the world's soundest investments—United States Savings Bonds. It backs our country's guarantee: safety of principal up to any amount, and an assured rate of return. For real security, buy Bonds regularly, through your bank or the Payroll Savings Plan.

Now Savings Bonds are better than ever! Every Series E Bond purchased since February 1, 1957, pays 3¼% interest when held to maturity. It earns higher interest in the early years than ever before, and matures in only 8 years and 11 months. Hold your *old* E Bonds, too. They earn more as they get older.

SAFE AS AMERICA . . . U. S. SAVINGS BONDS

The U.S. Government does not pay for this advertisement. It is donated by this publication in cooperation with the Advertising Council and the Magazine Publishers of America.

thousands of clinical cases prove that...

KOAGAMIN®

parenteral hemostat

arrests bleeding in minutes
prevents excessive blood loss

A Few Cases From The Literature[1]

CASE	DOSAGE OF KOAGAMIN	RESPONSE
Fox Terrier mammary tumor	1 cc. I.M., ½ hour preoperatively	"...capillary hemorrhage decreased to negligible...."
English Thoroughbred excise lachrymal duct	20 cc. I.V., at close of surgery	"...in 10 minutes bleeding had come to a practical stop...."
German Shepherd penal sarcoma	hemorrhage 5 hours postoperatively – 3 cc. I.V.	"Bleeding lessened in 10 minutes... ceased in 20 minutes."
*Thoroughbred Gelding** amputate scirrhous cord	bleeding despite ligatures – 10 cc. I.V., 10 cc. I.M.	"Seeping hemorrhage was arrested in 10 to 15 minutes."
Terrier panhysterectomy	Profuse bleeding during surgery – 2 cc. I.M.; 2 cc. I.V., 10 minutes later	"...marked reduction in hemorrhage within 4 minutes... hemostasis in 10 minutes."

*N.B. A second thoroughbred under identical conditions but without KOAGAMIN: postoperative seeping hemorrhage – ½ hour; oozing – an additional 2 hours.

KOAGAMIN, an aqueous solution of oxalic and malonic acids for parenteral use, is supplied in 20-cc. diaphragm-stoppered vials.

1. Rachman, M., and Frucht, T. R.: Vet. Med. *49*:341, 1954.

Chatham

CHATHAM PHARMACEUTICALS, INC • NEWARK 2, NEW JERSEY

Distributed in Canada by Austin Laboratories, Limited, Guelph, Ontario

Northern Virginia Veterinary Society, the second Wednesday of every third month. Meeting place announced by letter. H. C. Newman, Box 145, Merrifield, secretary.

Southwest Virginia Veterinary Medical Association, the first Thursday of each month. I. D. Wilson, Blacksburg, secretary.

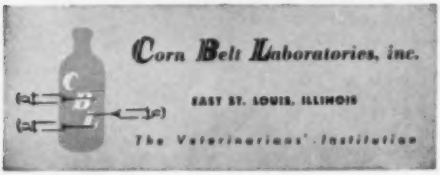
WASHINGTON—Seattle Veterinary Medical Association, the third Monday of each month, Magnolia American Legion Hall, 2870 32nd W., Seattle, Wash. William S. Green, 9637 S. E. 36th, Mercer Island, Wash., secretary.

South Puget Sound Veterinary Association, the second Thursday of each month except July and August. O. L. Bailey, P. O. Box 906, Olympia, Wash., secretary.

WEST VIRGINIA—Kyowva (Ky., Ohio, W. Va.) Veterinary Medical Association, the second Thursday of each month in the Hotel Prichard, Huntington, W. Va., at 8:30 p.m. Harry J. Fallon, 200 5th St., W. Huntington, W. Va., secretary.

Central Wisconsin Veterinary Medical Association, the second Tuesday of each quarter (March, June, Sept., Dec.). R. J. O'Hern, P. O. Box 617, Cumberland, Wis., secretary.

Dane County Veterinary Medical Association, the second Thursday of each month. Dr. E. P. Pope, 409 Farley Ave., Madison, Wis., secretary.



WISCONSIN—Milwaukee Veterinary Medical Association, the third Tuesday of each month, at the Half-Way House, Blue Mound Rd. George F. Lynch, 201 West Devon St., Milwaukee 17, Wis., secretary.

Northeastern Wisconsin Veterinary Medical Association, the third Wednesday in April. William Madison, 218 E. Washington St., Appleton, Wis., secretary.

Rock Valley Veterinary Medical Association, the first Wednesday of each month. W. E. Lyle, P. O. Box 107, Deerfield, Wis., secretary.

Southeastern Veterinary Medical Association, the third Thursday of each month. John R. Curtis, 419 Cook St., Portage, Wis., secretary.

Wisconsin Valley Veterinary Medical Association, the second Tuesday of every other month. E. S. Scobell, Rt. 2, Wausau, Wis., secretary.

Skin Adherent No. 2
Non-irritating liquid adhesive
for strapping and padding
Small Animal Hospitals
Send for Sample
The MOWBRAY CO., Waverly, Iowa

Traumatic Gastritis in Antiquity.—The Bible says (Isaiah 30:24) "The oxen likewise and the young asses, shall eat clean provender, which has been winnowed with the shovel and with the fan." Even in those early days, folk may have been concerned about what went into the stomach of their cattle.—*More Money from Livestock, Feb., 1957.*

Protect Wounds with **Aeroderm®**
PLASTIC BANDAGE AND PROTECTIVE DRESSING

Have you used Aeroderm? There is, we'll admit, a trick to using it, and if you're a regular user at present, you'll know what we mean. Spray it on *lightly*—just a swish over the area to be covered at a distance of *at least* 10-12 inches—let it dry for 30 seconds, then swish again *lightly*—that's all that's needed, and you'll avoid having it run or remain sticky. Or there's another way of using it which is especially good in oozing or bleeding wounds. Spray one light coat, then apply a layer of gauze before the coat dries. Spray another coat, and apply a second layer of gauze and a third if necessary, depending on the amount of bleeding or oozing. The gauze will absorb the exudate.

Sold by your veterinary dealer

AEROPLAST CORPORATION
420 DELLROSE AVE., DAYTON 3, OHIO

Sparine®

HYDROCHLORIDE

Promazine Hydrochloride, Wyeth

CONTROLS AGITATION IN SMALL AND LARGE ANIMALS

SPARINE controls central nervous system agitation commonly encountered in veterinary practice. In therapeutic doses, it produces a unique calming and quieting effect, inducing relaxation without loss of consciousness.

By replacing manual or mechanical restraint with "chemical restraint," SPARINE reduces the risk of injury to patient and practitioner, enhances accuracy of diagnosis, and greatly simplifies treatment.

In X-ray examinations, otoscopic procedures, dentistry, and handling, SPARINE leaves the animal calm and manageable.

In cases of self-mutilation associated with eczema, pruritus, otitis, etc., its tranquilizing properties make it invaluable as adjunctive therapy.

MOST IMPORTANT: SPARINE, being effective in both oral and injectable forms, is useful for treating small *and* large animals. Its therapeutic potential is defined only by the requirements and ingenuity of the individual practitioner.

AVAILABLE:

Tablets: 25, 50 and 100 mg., bottles of 50 and 500; 200 mg., bottles of 500.

Injection: 50 mg. per cc., vials of 2 and 10 cc.

Wyeth®
Philadelphia 1, Pa.

SUPPLIED ONLY TO THE PROFESSIONS

CLASSIFIED ADVERTISEMENTS

Personal Want Ads—$4.00 for the first 25 words and 10 cents for each additional word; 35 cents for use of box number.

Commercial Want Ads—$5.00 for the first 25 words, 25 cents for each additional word.

Remittance must accompany ad.

Deadlines for Want Ads

***For JOURNAL dated 1st of month* — 8th of month preceding date of issue.**

***For JOURNAL dated 15th of month* — 22nd of month preceding date of issue.**

Names of classified advertisers using key letters can not be supplied. Address your reply to the key letters, c/o JOURNAL of the AVMA, 600 S. Michigan Ave., Chicago 5, Ill., and it will be transmitted to the advertiser.

Wanted—Veterinarians

Assistant veterinarian wanted for small animal practice. State full particulars and desired salary. M. G. Carbone, D.V.M., 615 No. Glebe Rd., Arlington, Virginia.

Veterinarian wanted as assistant in modern small animal hospital in suburb of New York City. Excellent opportunity and salary. Address "Box K 42," c/o JOURNAL of the AVMA.

Foreign veterinarian wanted to assist in small animal hospital. Apartment available; married preferred. Address "Box K 34," c/o JOURNAL of the AVMA.

Experienced veterinarian wanted to operate small animal hospital in northwestern Indiana. Neatness, integrity, and initiative necessary. Modern apartment available. State age, experience, other details in first letter. Photo appreciated. Dr. K. M. Friedburg, Three Oaks, Mich.

Assistant veterinarian wanted in New Jersey small animal hospital, near coast. State references, experience, salary expected in first letter; N. J. license. Address "Box L 2," c/o JOURNAL of the AVMA.

Veterinary assistant wanted for small animal hospital in southern Calif.; must be licensed in Calif. Address "Box L 5," c/o JOURNAL of the AVMA.

Young veterinarian wanted to assist practice in large Virginia city. Some large animals. Experience desired. Salary and percentage. Address "Box L 6," c/o JOURNAL of the AVMA.

Wanted—Positions

German veterinarian, graduated in 1951 from the Univ. of Giessen, Germany, is immigrating to the U.S. and would like an assistantship to a veterinarian or a place of research. Has had mixed animal practice since graduation, with good experience on livestock and some with small animals. Has qualified sponsorship evidence for immigration and knowledge of English. For further information write or call Knefely Travel Bureau, 16 W. Second St., Mansfield, Ohio; telephone: LAfayette 4-3262.

Veterinary surgeon, 35, Univ. of Budapest graduate, 10 years experience, intending to immigrate to U.S.A., wants position as assistant to established practitioner. Dr. Werner Stumm, 50 Oakstreet, Lexington, Mass.

Graduate, API, age 38, married, Protestant, desires position with regular hours. 17 years experience in meat inspection and general practice. Address "Box K 37," c/o JOURNAL of the AVMA.

Graduate, 1947, married, experienced in small animals and regulatory work wishes employment, or partnership, or will buy; Illinois, Indiana, and Michigan. Presently employed in small animals; will answer all. Address "Box H 41," c/o JOURNAL of the AVMA.

Wanted—Practices

Graduate, 1956, experienced mixed practice, desires to purchase on contract, or lease with option, a small animal or mixed practice, or position leading thereto. Age 36, married, veteran. Licensed Texas and Oklahoma. Please state terms. Address "Box L 4," c/o JOURNAL of the AVMA.

For Sale or Lease—Practices

Hospitals, kennels, small animal practice, lovely home for sale in northern West Virginia. Large animal opportunity. Beautiful acreage; select clientele. Practice can be increased as desired. Address "Box L 3," c/o JOURNAL of the AVMA.

Mixed practice in Colorado for sale. Fully equipped hospital (and apartment), with accommodations for both large and small animals. Large enough for two veterinarians. Address "Box K 31," c/o JOURNAL of the AVMA.

Established large animal practice in Southeastern South Dakota for sale; grossing over $25,000 annually. Adequate rainfall. Will sell for $15,000. No real estate. Address "Box K 39," c/o JOURNAL of the AVMA.

Completely equipped boarding kennel for sale; fine clientele. Separate building for veterinary office; partially furnished two bedroom, two bath, river front home. No veterinarian in this growing community, near Ellinor Village. Mr. & Mrs. H. W. Beatty, Box 123, Ormond Beach, Florida.

Veterinarian wanted

Large nationally known manufacturer of veterinary products has excellent opportunity for veterinarian with 2-4 years' experience to serve as area technical representative. This is not a sales position. Send complete resume stating education, experience, and salary desired.

Address "Box L 1,"
c/o JOURNAL of the AVMA.

a new life for the old dog...

new metabolic regulator

restores muscle tone and vigor

Restoring hormonal balance in the aging dog often means increased vigor, better appetite, healthier skin and hair coat and, from all appearances, a "brighter outlook on life." Anabolin, the new metabolic regulator, helps do all this by providing a balanced combination of ethinyl estradiol, methyltestosterone and thyroid globulin.

The anabolic, protein-sparing effect of Anabolin helps overcome the effects of hormonal deficiencies or imbalances and strengthens the anabolic activities of the body. Anabolin is indicated in dogs of all ages to counter the catabolic effects of aging, injury, infection, faulty diet, surgery, parasitism.

Dosage: Usually one tablet daily. Larger dogs may require 2 tablets. Tablets are small and can easily be administered directly or in food. The beneficial effects of Anabolin usually become evident within 7 to 10 days but therapy should be continued as indicated.

Packaging: Bottles of 100 and 500.

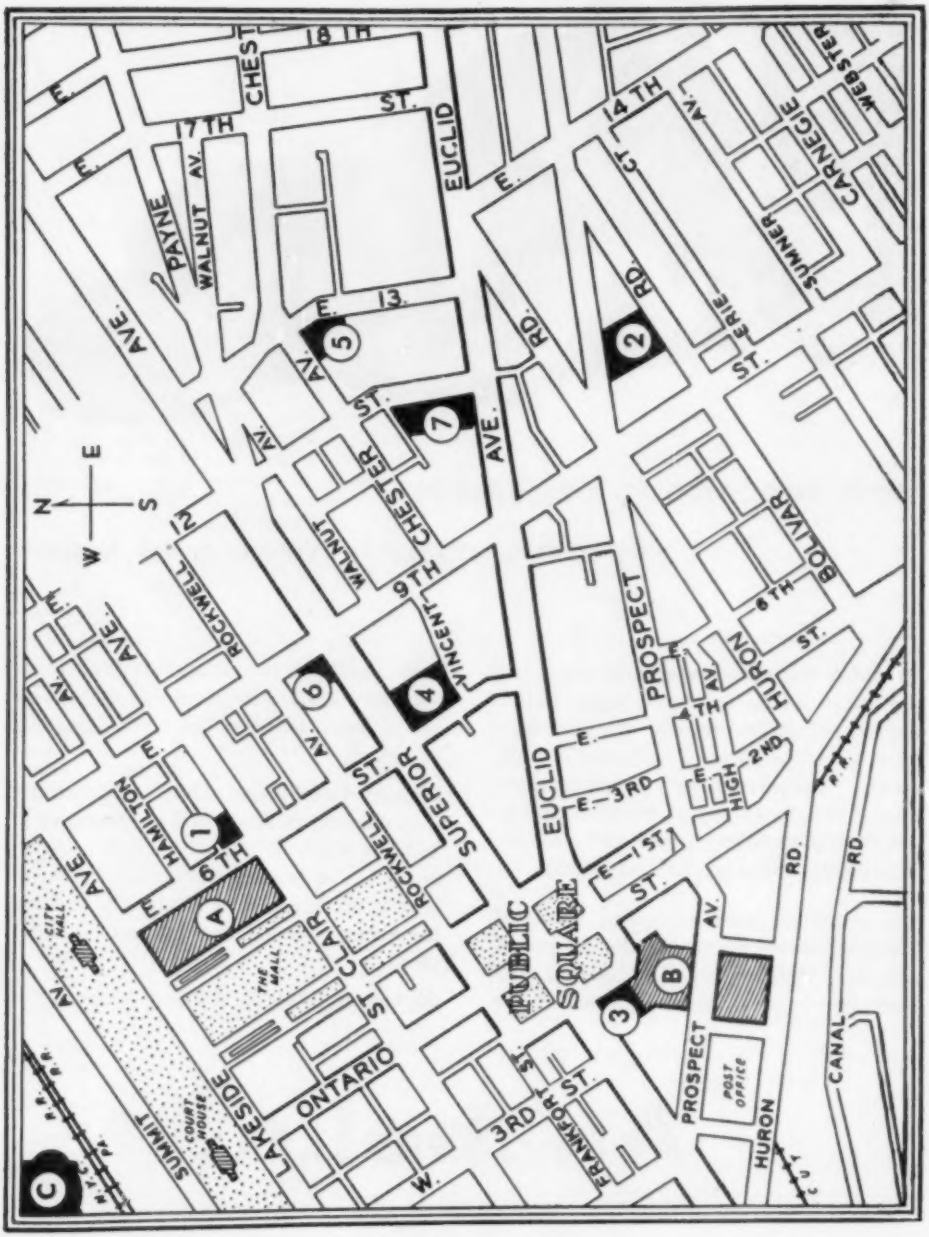
Anabolin

TRADEMARK

DIVISION OF VETERINARY MEDICINE

WARNER-CHILCOTT

Laboratories MORRIS PLAINS, N. J.



A. Cleveland Auditorium
B. Union Station
C. Stadium—Home of the Indians and the Browns

1. Auditorium Hotel
2. Carter Hotel
3. Cleveland Hotel
4. Hollenden Hotel
5. Manger Hotel
6. Olmsted Hotel
7. Statler Hotel

HOTEL RESERVATIONS — CLEVELAND CONVENTION

Ninety-Fourth Annual AVMA Meeting, Aug. 19-22, 1957

All requests for hotel accommodations will be handled by a Housing Bureau in cooperation with the Committee on Local Arrangements. The Bureau will clear all requests and confirm reservations.

Hotels and Rate Schedule

Hotel	Single	Double	Twin	Suite
1. Auditorium	$4.75- 8.00	$ 7.50-10.00	$10.00-12.00	$25.00
2. Carter	$5.50- 9.25	$ 8.50-13.50	$ 9.50-14.25	$26.50-36.50* $40.00-48.25†
3. Cleveland	$6.50-11.00	$ 9.00-14.00	$10.50-20.00	$20.00-55.00* $44.00-70.00†
4. Hollenden	$5.00- 9.00	$ 8.00-12.00	$ 9.00-14.00	$20.00-30.00* $30.00-60.00†
5. Manger	$5.00- 9.00	$ 7.00- 9.00	$ 9.00-13.00	$18.00-45.00* $36.00-75.00†
6. Olmsted	$4.25- 9.00	$ 7.00-11.00	$ 8.50-11.00	$17.00-20.00
7. Statler	$6.00-13.00	$10.00-16.00	$11.00-18.50	$24.00-32.00* $46.50-48.50†

*—2-room suite
†—3-room suite

Tear Here

RESERVATION FORM — AVMA CONVENTION — CLEVELAND

To: HOUSING BUREAU, Cleveland Convention and Visitors Bureau, Inc., 511 Terminal Tower, Cleveland 13, Ohio.

Hotel

(Three choices MUST be shown)

First choice hotel _____

Second choice hotel _____

Third choice hotel _____

Accommodations

_____ Single Room(s) @ $_____

_____ Double Room(s) @ $_____

_____ Twin-bed Room(s) @ $_____

_____ 2-room suite @ $_____

_____ 3-room suite @ $_____

Arriving on (date) _____ at _____ ( ) a.m. ( ) p.m.

Departing on (date) _____

Will be occupied by (attach list of additional names if necessary).

Your Name (print or type) _____

Street Address _____

City _____ Zone _____ State or Province _____

Established general practice for sale in an attractive midwestern town of 2,000. New residence and drugs included. Address "Box L 7," c/o JOURNAL of the AVMA.

Well established mixed practice, small hospital, living quarters, drugs, and equipment for sale. Only veterinarian in small town, central Indiana. Priced on one year's gross. Down payment, balance on contract. Reason: health. Dr. M. O. Nottingham, Summitville, Ind.

Long established small animal hospital in Florida for lease. Fine location; excellent clientele. Cash or terms. Address "Box L 9," c/o JOURNAL of the AVMA.

Miscellaneous

Artificial Udder—Beco Litter Feeder—nurses 8 puppies simultaneously. Stays warm; easily cleaned and sterilized. Complete unit, $15; guaranteed. Breeders Equipment Co., Flourtown, Pa.

Breedersleve—the disposable obstetrical sleeve. Package of 25 with detachable chest band, $5.00; lower wholesale prices. Free sample upon request. Breeders Equipment Co., Flourtown, Pa.

Too Late to Classify

Desire recent graduate. Exclusively small animal. Salary $6,000 a year. No living quarters available. Position available Sept. 15. Must have Illinois license. Address "Box L 8," c/o JOURNAL of the AVMA.

DE LUXE CAGES

IMPROVED 7-CAGE DE LUXE DRAIN UNIT

The small size is 7½ feet long with 3-30" cages in bottom and the large unit 9 feet long with 3-36" cages in bottom.

Also available in removable tray style, or plain flat floor style without gutter drains.

Our units are available in 3, 5, 7 or 12 cage units, or any combination you need.

Available in galvanized or stainless steel

Write for NEW cage booklet; also DRYER FOLDER

NOTE NEW LOCATION

Baltimore Wire and Iron Works

319 Barrow Street **Jersey City 2, N. J.**

ADAMS JUNIOR CENTRIFUGE

Features: Now permanently lubricated • Lightweight • Compact • Sturdy •

Accommodates two 15 ml. tubes

Maximum speed on AC 1300 RPM, 1800 RPM on DC.

Adams Junior Centrifuge
Each **$46.00**

Protective guard as shown above
Each **$5.25**

An automatic pipetting device for delivering predetermined quantities of liquid repeatedly—without resetting or remeasuring.

ADAMS AUPETTE

For inoculating groups of animals with equal doses, the Aupette assures continuous accuracy, and through its use, adjustment or setting is required only once.

Adams Aupette 10 cc. capacity. Includes 10 cc. syringe, calibrated in 1/5 cc., 13 gauge x 2" cannula tip, sinker, and 24" plastic tubing (PV-608):

Each **$22.50**

Order from: **VETERINARY MEDICINE SUPPLY CORP.,**

119-05 Metropolitan Ave., Kew Gardens 15, N.Y. Cable: Herblews Newyork—Phone Virginia 7-9312

d

distemper

h

hepatitis

r

R_L products are sold only to graduate veterinarians.

sin-jex

Sin-jex is the first vaccine to utilize a vacuum-dried modified live virus distemper fraction with hepatitis killed virus as diluent. Sin-jex stimulates an early, lasting response; and assures protection against the two most common canine diseases . . . with one single injection.

Research Laboratories, Inc.

Saint Joseph,

Missouri

M·A·C

Quick relief for Bone,
Bursal or Tendon Lameness
Single Bottle.....$2.00
3 and 1 free.....5.00
6 and 2 free.....9.00
12 and 4 free.....17.00
24 and 4 free.....28.00
CARTER-LUFF CHEMICAL CO.
Hudson, N. Y.

DAILY LOG
RECORD SUPPLIES FOR VETERINARY PHYSICIANS
WRITE FOR FREE CATALOG
A complete line of Record Supplies and Professional Stationery designed specifically for the medical profession.
• Financial Record Book
• Appointment Book
• Printed Stationery
• Patients' Records
• File Guides
• Payment Records
NEW 1958 EDITION
COLWELL PUBLISHING CO.
281 University Ave., Champaign, Ill.

DANGEROUS "DO-IT-YOURSELF" DIAGNOSIS

by farmers and pet owners has been discouraged for over 40 years by Vitamineral Products Company. VpC mineral, vitamin and antibiotic supplements are still sold *only* through veterinarians . . . and will continue to be, for your professional diagnosis and prescription are essential in the correction and prevention of nutritional deficiencies.

SOLD TO VETERINARIANS ONLY

VITAMINERAL PRODUCTS CO.
PEORIA, ILLINOIS
Dependable supplement feeds to veterinarians since 1913

Dr. T. W. Munce Honored

At a recent dinner meeting in Indianapolis of Allied Laboratories representatives, Dr. T. W. Munce (PENN '15) was honored and presented with a gold wrist watch in recognition of his long and useful career as a member of the veterinary profession and a company official. The presentation was made by J. L. McKee, president of Allied Laboratories, Inc.

Dr. Munce joined the Pitman-Moore division in February, 1919. He rose to his present position of president of the Sioux City division, vice-president of Allied Laboratories, and a member of its board of directors.

Dr. Munce is an authority on swine diseases and their control, and has had many scientific papers published on the subject. From 1942 to 1946, he served as president of the Associated Serum Producers, Inc. He is a member of the AVMA, and the Iowa and Pennsylvania veterinary medical associations.

Dr. Sam Scheidy Heads Veterinary Department, Smith, Kline & French

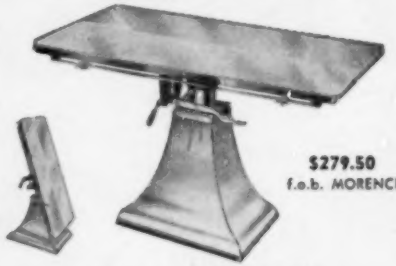
An animal health products department has been organized at Smith, Kline & French Laboratories, a Philadelphia pharmaceutical firm. Mr. Francis Boyer, president of the company, said the firm's entry into this field is limited at present to a pilot organization, but said that a number of their pharmaceuticals has been found of value in veterinary medicine; the new department will be charged with the investigation of these products for use in animals.

Dr. Samuel F. Scheidy

Dr. Samuel F. Scheidy, V.M.D., assistant professor of Clinical Veterinary Medicine at the University of Pennsylvania, will join the SKF staff July 1 as veterinary medical director. Dr. Scheidy, a member of the Executive Board of the AVMA, is widely known among veterinarians; he has been veterinary medical director of Merck Sharp & Dohme since 1943.

WORLD'S FINEST STAINLESS STEEL OPERATING TABLES

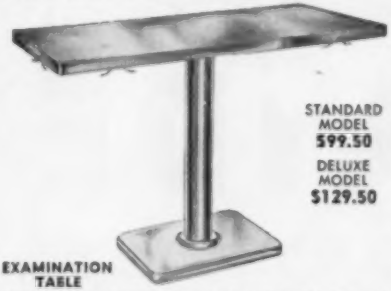
made exclusively for Veterinarians



$279.50
f.o.b. MORENCI

HYDRAULIC OPERATING TABLE

Features precision-made hydraulic unit guaranteed for life of the table. Finger-touch control raises, lowers and locks table in seconds. Large 24" x 60" top. Movable on concealed casters.

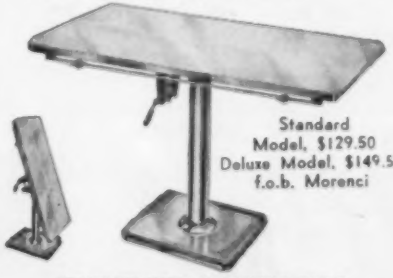


STANDARD MODEL
$99.50

DELUXE MODEL
$129.50

EXAMINATION TABLE

Reinforced stainless steel top in 22" x 48" size. Six tie clamps. Patented "corner compensaters" automatically level table on any surface. Designed for examination and pre-surgery treatment.



Standard Model, $129.50
Deluxe Model, $149.50
f.o.b. Morenci

STAINLESS STEEL OPERATING TABLE

Chrome plated single pedestal and base combined with reinforced stainless steel top. Positive locking adjustment in twelve positions. Super size 24" x 60" top.

ALL MODELS AVAILABLE FROM LEADING SUPPLIERS

TED STOCKWELL MFG. CO.
MORENCI, MICHIGAN

Index to Advertisers in This Issue

Abbott Laboratories 18
Aeroplast Corporation 44
Affiliated Laboratories Corporation 13
American Cyanamid Company 38, 39
Armour Veterinary Laboratories 35
Arnold Laboratories 14
Baltimore Wire & Iron Works 50
Bio Laboratories 34
Boston Instrument Mfg. Co., Inc. 36
Campbell X-Ray Corporation 28
Carter-Luff Chemical Co. 52
Chatham Pharmaceuticals, Inc. 43
Ciba Pharmaceutical Products, Inc. .. 8, 9
Colwell Publishing Co. 52
Corn Belt Laboratories, Inc. 44
Cornell University Press 4
Corn States Laboratories, Inc. .. 2nd cover
Eaton Laboratories 31, 33
Fort Dodge Laboratories 5, 24
Friskies Dog Foods 15
Fromm Laboratories 41
Haver-Lockhart Laboratories 54
International Salt Co., Inc. 7
Jensen-Salsbery Laboratories, Inc. 4th cover
Kirschner Manufacturing Company 11
Lionhaven 26
Massengill Company, S. E. 16
Mowbray Company 44
Nicholson Manufacturing, Inc. 19
Norden Laboratories 1
Parke, Davis & Company 25
Parlam Corporation 23
Pfizer Laboratories 22, 27
Pioneer Rubber Company 32
Pitman-Moore Company .... 3, 3rd cover
Professional Printing Company 40, 53
Research Laboratories, Inc. 51
Schering Corp. 20, 21, 29
Stockwell Mfg. Co. 53
Veterinary Medicine Supply 50
Vitamineral Products Company 52
Warner-Chilcott Laboratories .. 17, 30, 47
Wilson & Co., Inc. 10, 37
Winthrop Laboratories, Inc. 6
Wyeth Laboratories 45

TRIKICIDE

Trikicide Powder is a highly effective bactericide and fungicide for the treatment of dermatoses in both cats and dogs. A "dry" medication, it is recommended for preventing and treating ringworm, moist eczema and other weeping skin lesions, and ear canker.

The primary ingredients of Trikicide powder are 2, 2'-methylene-bis (4 chlorophenol) and oxyquinoline benzoate. Nontoxic to the host, this specially processed powder clings to the skin, promoting contact of the active ingredients with the causative agents.

Supplied: **Trikicide Powder**—Pkg. 12 x 1¼ oz. plastic spray bottles; 1 lb. hospital size.
Trikicide Solution—12 x 4 oz. plastic squeeze bottles; gallon bottles.

Other Haver/Lockhart products for the treatment of dermatoses in small animals.

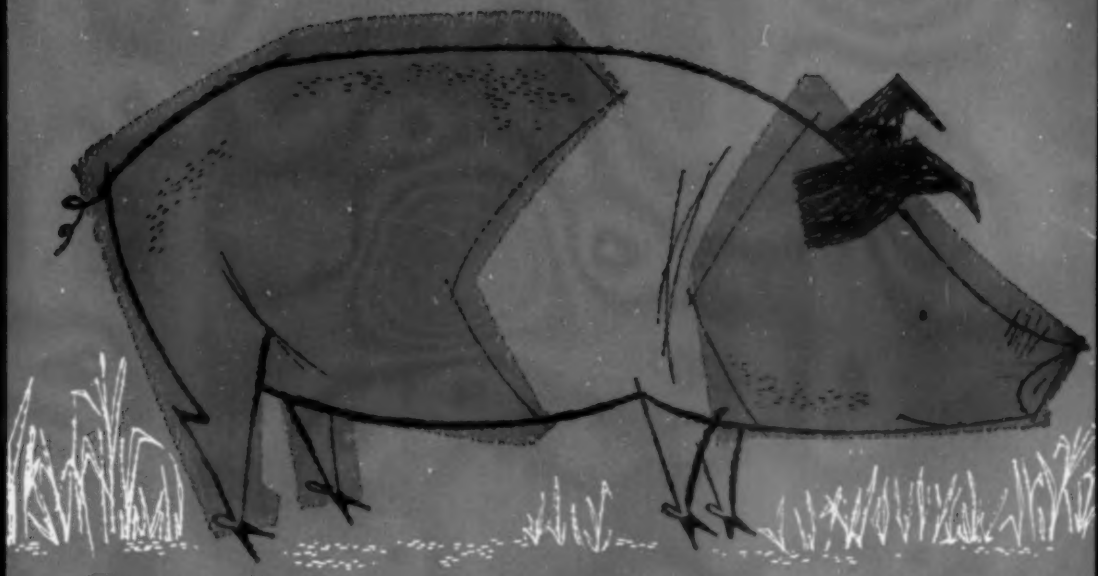
FATONE POWDER AND CAPSULES
for the treatment of skin diseases due to fatty acid deficiency.

BLUSOL
parenteral for systemic treatment of protozoan infections and selected skin conditions.

Division of
HAVER/LOCKHART LABORATORIES
Kansas City, Missouri

SAFETY FIRST...

with lasting protection



Swivax*

The superior hog-cholera vaccine for **SOLID** immunity...

MODIFIED LIVE VIRUS • RABBIT ORIGIN • VACUUM DRIED

*REGISTERED TRADE MARK

(Licensed under U.S. Patent 2516278)

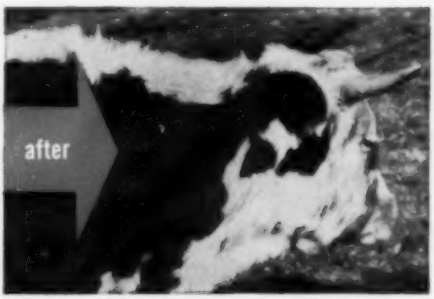
PITMAN-MOORE COMPANY

division of

ALLIED LABORATORIES, INC.

Jen-Sal

Wart Vaccine *clears up virus-borne seed warts of cattle after 2 injections*



Dramatic recovery! You can be sure of it when you use Jen-Sal's exclusive Chick Embryo Origin Wart Vaccine (Bovine). The pictures above present graphic evidence of the remarkable success with which Jen-Sal Wart Vaccine is used in cattle raising countries all over the world.

Typical case histories show marked wart degeneration following an initial 25 cc. dose administered 24 cc. subcutaneously and 1 cc. intradermally in the caudal fold. A second 25 cc. subcutaneous dose, given ten days after the first, fosters complete recovery in three to five weeks.

JEN-SAL WART VACCINE (BOVINE)/50 cc. vials

Jensen-Salsbery Laboratories, Inc.
Kansas City, Missouri